ENGLAND ON THE EVE OF THE INDUSTRIAL REVOLUTION

LOUIS W. MOFFIT

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A Study of Economic and Social Conditions
from 1740 to 1760
with Special Reference to Lancashire

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TO

MY WIFE

WITH WHOM THE PRODUCTION OF THIS WORK IS SO INTIMATELY BOUND UP, AND TO WHOSE SYMPATHY AND SUPPORT IT OWES SO MUCH

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PREFACE

THE researches on which this study is based were undertaken at the suggestion of Sir Richard Lodge, LL.D., as a preliminary to a somewhat more ambitious project then in my mind, a preliminary rendered necessary by the lack of any extended survey of economic conditions in the years immediately preceding the Industrial Revolution in England. Research was carried on in Edinburgh, and to some extent in Manchester, in the years immediately following the Great War. The work has since been revised, and during the long vacation last summer was brought up to date by the use of material available in the British Museum Library. I hope that in its published form it may serve students and others interested in Economic History as a general survey preliminary to a study of the Industrial Revolution, and its out-workings in the life of our own time. It may also direct attention to a field hitherto somewhat neglected by economic historians; and perhaps stimulate a more detailed study of such contemporary writers as Defoe and Young, who, although not statistical in any wide sense, convey a considerable amount of detailed information; and it may possibly encourage a greater use of such useful collections of local material as are to be found in the *Victoria County Histories*.

I wish to avail myself of this opportunity to acknowledge my indebtedness to all who have so

kindly and generously assisted me in the preparation of the work. I am especially indebted to Mr. J. F. Rees, M.A., of Edinburgh University, for his advice, criticism, and suggestions, as well during the final revision last summer as during my residence in Edinburgh. I am deeply grateful to Professor C. R. Fay, late of Cambridge, now Professor of Economic History in Toronto University, who very kindly read and criticized the whole work in manuscript. Many of his suggestions I have adopted. I have also to thank A. P. Wadsworth, Esq., of the *Manchester Guardian*, who generously gave me access to much unpublished material bearing on land tenure in his native district of Rochdale. I am indebted to Professor G. M. Unwin, of Manchester, whose many courtesies and kindnesses increased greatly the pleasure and profit of my stay in that city. Yet, while I gratefully acknowledge the assistance received from these and from others, it must be understood that I am alone responsible for the errors and omissions in the work. I should like, finally, to express my appreciation of the unfailing courtesy and helpfulness of the officials in the Advocates' Library, and the University Library in Edinburgh, of the Rylands Library in Manchester, and of the British Museum Reading Room.

Wesley College,
Winnipeg, Canada.
February, 1925.

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INTRODUCTION

HISTORY records two kinds of revolution. One consists of a sudden revolt against galling conditions that have at last become intolerable. Such a revolution is primarily destructive. The forces behind it are fired by passionate resentment, by fear of the consequences of failure, and by a bitter hatred directed against the social classes that represent control of the old system. The succeeding system will be, for a time at least, artificial, and there is likely to be a more or less complete reaction. Only after constructive forces have had time to assert themselves will order evolve out of chaos. The French Revolution stands for all time as the type of such a social upheaval.

The other sort represents the bursting forth of fresh energy, a growth so rapid and so extensive that room cannot be found for it within the old limits. Such a revolution does not so much destroy the old as leave it behind, to rear a new and better structure, or at least one better adapted to a new age. Its purpose, so far as it is conscious of one, is to reach some new and alluring position. An outlet must be found for the energy that tingles in every nerve of the community.

However spectacular some phases of such a revolution may appear, there lies behind it a long period of preparation. There was a slow gathering of forces which the old organism is finally not strong enough to contain. The old ties slowly relax, some features of the old organization gradually disappear. Then when all is prepared, the new age bursts forth. It may bring unlovely features. It is sure to bring new problems, or new forms of old ones, but it shapes its own organization, and builds its own framework.

A study of England in the eighteenth century bears in

upon one just such an impression as this. The period prior to 1760 was not one of stagnation. New inventions did not, like accidental electrical contacts, galvanize sluggish industry into a sudden fresh activity. Rather they were evidences of the expanding life which could not develop sufficiently under the old arrangements.[1] England was a reservoir into which was being poured the wealth of a growing continental and overseas trade, and that trade demanded an ever-increasing flow of English manufactures. The old system of transport, communication, industry, and agriculture could not provide either scope or material for the new activity. The latter part of the eighteenth century was the period of transition when agriculture, industry, and commerce adapted themselves to the new requirements.

For at least a century before, there had been active and energetic, if unconscious, preparation discernible in various phases of the national life. In the intellectual sphere it was the age of Addison and Steele, of Fielding and Richardson, of Swift and Defoe. The activity of the Royal Society evidences the spirit of inquiry that was eagerly searching out the secrets of nature. There was remarkable interest in mechanical contrivances; some of the most ingenious mechanical toys that have been known were constructed in the first sixty years of the eighteenth century. But this curiosity was not to be allowed to fritter itself away on toys. Commerce was rapidly expanding, and new methods of manufacture, new and speedier means of communication, and a largely increased food supply were becoming necessary. Premiums and prizes were being offered for the invention of new mechanical contrivances and the discovery of improved processes. But the profits to be made in trade and industry were still more powerful incentives to research and invention.

In the commercial sphere we find capital accumulated in trade flowing back to nourish that industry which provided goods for foreign trade. Successful industrialists are

[1] E.g., Lord: *Capital and Steam Power*, p. 13: "the hampering influence of the gild disappeared, not by the thrusting from below, but from the mere fact that industry grew beyond it."

reaching out to capture the commercial profits to be made by selling their own manufactures. The early half of the eighteenth century saw a remarkable increase in the middleman organization, and a relaxation of government restriction on his activities. There is also a gradual withdrawal of government supervision of industry. Coincident with these we see a rapid development of postal communication, of inland navigation, and a considerable improvement of the roads, and the foundations of our modern system of credit were being laid. The whole world of business was becoming more sensitive and hence more responsive to the needs of producer and consumer.

Agriculturally there was a breaking away from the remaining vestiges of feudalism, a tendency to consolidate farms, and to concentrate in the hands of one individual rights of ownership formerly divided between two or more. Desire for profit led to the adoption of better methods of cultivation; hence the enclosure movement, the reclaiming of waste and barren land, and elimination of wasteful methods. We may say that expanding commerce and growing urban centres were undermining the whole philosophy of Mercantilism. As the potential profits tempted to a keener competition, the natural inequalities of men in that race for wealth made the adoption of *laissez-faire* ideas almost inevitable.

To the Mercantilist, national wealth was supremely important, individual wealth insignificant; the form of economic goods everything, their value in a competitive market of little importance; the labour of the worker of supreme importance to the nation, his social and economic welfare entirely secondary; numerical increase in the population desirable but only that labour might be cheap, and the reservoir of men for army and navy full. This view of labour [1] gave rise to the doctrine that employment should be available for every pair of hands, that it should be provided by the State if necessary. Coupled with the right to employ-

[1] This whole question is admirably dealt with by E. S. Furniss: *The Position of the Labourer in a System of Nationalism.* Furniss has a diagram, pp. 205–7, showing the use of real wages.

ment was the duty to labour, for the enforcement of which eighteenth-century writers clamoured continually. Hence the forms which the Poor Law administration took, the vitality of the Settlement Laws through most of the century. Arising out of this view of labour also was the doctrine of the utility of poverty which was used to justify low wages, and resulted in a subsistence theory of what wages ought to be. Fortunately the eighteenth century was kinder than its theories, and prior to the changes of the Industrial Revolution Labour was steadily improving its position.[1]

Tendencies were at work, however, that were producing a moral degeneracy of which later eighteenth-century writers complained bitterly. These were (*a*) the trend of economic change was to destroy hope of future improvement, and so to take away the chief incentives to thrift and industry; too much capital was required to engage in business, and the agrarian changes made it equally difficult for the labourer to become a landowner; (*b*) the system of legalized charity made rigid by the Settlement Acts tended to destroy self-reliance and resourcefulness; (*c*) there was no place for the poor man's savings except under the hearthstone, where it paid no interest and reaped no profit.[2] But the philanthropy of the eighteenth century was a counterbalancing force, which kept open the way by which might enter the spirit which should aid the nineteenth-century workman in his long struggle against *laissez-faire* ideas as prejudicial to his interests as unfettered Mercantilism.

The present purpose is to discuss some phases of this period of preparation, and to show how far the highway had been made straight for the entry of the new methods and organization that were to create and dominate the new age. While special reference is made throughout to Lancashire it has not been the intention to confine the discussion to that county, but rather to use the developments there to illustrate the broader sweep of the movement.

[1] Adam Smith thought real wages had risen during the century. Hewins, *English Trade and Finance*, p. 89, takes the same view, at least up till 1765. Prothero (Lord Ernle) speaks of 1713–65 as the Golden Age of the agricultural labourer.

[2] See E. S. Furniss: *The Labourer in a System of Nationalism*. App. III.

Any description of England is liable to be partial, and so make generalizations dangerous, especially regarding a period of transition, and for this reason generalizations have been avoided or made tentatively. For example, while industry was advancing in the north, it tended to decline in the south-west and the east. Agriculture was progressing rapidly in the Metropolitan area, and in Norfolk, but moving much more slowly elsewhere, especially in the north. The woollen and worsted industries were shaking themselves free but slowly from the shackles of Mercantilism and tradition, while the new cotton industry was growing up largely unfettered. Domestic industry was adapting itself to capitalistic control, while the metal, chemical, and most of the mining industries were developing necessarily a frankly capitalistic organization.

To a Canadian who grew up in the midst of the agricultural life of Ontario, and who has since acquired a measure of familiarity both with the industrial areas of Ontario and with the agricultural province of Manitoba, certain analogies between eighteenth-century England and nineteenth-century Canada naturally suggest themselves. Some minor ones may be mentioned first. In the author's youth, for example, domestic spinning of wool still persisted on the farms less than a hundred miles from Toronto. Weaving of rag carpets in what could properly be called a loom-shed, attached to the weaver's cottage, was carried on for some years after the opening of the present century. In this case, the warp was supplied by the weaver, and the woof material by the customer, who paid piece rates for the work done. The country carpenter, whose main occupation is the building of barns, is still a familiar figure in the agricultural districts. He supplies tools, skill, and labour, while the customer supplies all material. He works, not on wages, but on a contract price for the entire building. Besides these survivals of domestic industry, Canada shares rather extensively in the recent revival of the domestic industry of machine knitting. Putters-out are replaced, it is true, by His Majesty's Mail, but the essential features are the same. The machine is purchased by the worker, who

labours in his or her own home, and receives piece rates for work done on the firm's material.

In mining there is an analogy between the free system of lead-mining in Derbyshire and the mining regulations of Ontario.[1] Discovery of mineral is a valid claim to the right of development. The claim has to be "proved" by a government recorder, who thus performs functions analogous to those of the Barmoot Court. In order to hold his claim, the miner must show the expenditure of a certain sum annually on development or his claim will lapse. And last but not least, he must pay a royalty of 10 per cent. to the state on all mineral produced.

The cities of Canada present a constant illustration of the transformation of residences into shops in certain streets, a change noticed in eighteenth-century England when shops began to replace markets as places of retail trade; a change which may still be observed in parts of London. Bloor Street, Toronto, is at present undergoing such a change,[2] and every Canadian familiar with city life would add examples from his own experience.

Turning to agriculture, the late nineteenth century in Canada presents features similar to some of the agrarian changes in eighteenth-century England. Scientific rotation of crops has within the writer's memory taken the place of the fallow system in the East, and is only now being developed on Western farms, where the system of two grain crops and a fallow year still holds sway in large areas. Likewise, systematic manuring is still in its infancy in the West, and even in the East has scarcely got beyond the stage of using barn-yard manure. The last twenty years has seen a rapid increase in the number and variety of implements used on Canadian farms, which in some ways corresponds to the changes which followed Tull's experiments, with the difference that in Canada the changes were welcomed as a means of overcoming the shortage of agricultural labour. Likewise the last forty years has seen an extensive growth of scientific breeding of cattle, and other live stock, comparable in some measure to the improve-

[1] See below, Ch. V.

[2] See below, Ch. VIII.

ment brought about in England in the eighteenth century.

The incentive for this was essentially the same as in England. The home demand became much greater with the growth of urban centres of commerce and industry, such as Montreal, Toronto, Hamilton, and a host of smaller towns. Improved ocean transport and a refrigerator rail and ocean service for fruit and fresh meats have enormously increased the demand for food-stuffs for export. A great deal of land has been transformed from ordinary farm land worth perhaps £20 per acre into fruit farms worth about £200 per acre,[1] and accompanying this there has been a tendency to increase the size of ordinary farms.

Curiously enough, alongside of this, the counterpart of the wasteful "balk" between the strips of the open field system has persisted. The fence corners of the old "snake rail" fences wasted a great deal of land, which was a famous breeding-place for weeds. In the West we have the weed-laden unused portion of a too generous road allowance. A strip 4 rods wide encircles every square mile of land. At least 2 rods of this is quite unnecessary, and 4 acres of each farm of 320 acres is not only wasted but becomes a constant nuisance on account of the weeds.

Perhaps the most interesting analogy, which deserves fuller treatment than can be accorded it here, is that of the struggle against the middleman.[2] In spite of all the efforts of producers and government, he consolidated his position in the eighteenth century in England, partly because he rendered a real economic service, and partly perhaps because the entry of *laissez-faire* theory drew the attention of government away from him. The spread between the price paid to the producer, especially the agricultural producer, and the price paid by the consumer, suggests that the cost of the service rendered by the middleman has become in many cases excessive. In England the co-operative buying by the consumers through Co-operative Societies has helped to keep the retail price of many com-

[1] This is the case in the Niagara Peninsula in Ontario and in parts of British Columbia.

[2] See below, Chapters III and VIII.

modities from rising too much. This sort of co-operation has not been a success in Canada.[1] But the middleman's control of the situation has been weakened by the growth of co-operative marketing. The fruit-growing areas have extensive co-operative selling organizations, especially in Ontario and British Columbia. Some of these embrace the bulk of the growers of a whole county,[2] and they have materially improved the marketing of fruit to distant centres, the benefit of which has been shared by both producer and consumer. The co-operative marketing of grain, commenced as a compulsory wheat-pool in the Western Provinces during the war, has been revived by voluntary pools in each of the three prairie provinces within the last year. It is too early to reach conclusions as to their success, but they have secured the support of the cultivators of several millions of acres, and hold out some prospect of reducing the cost of the middleman function.

At any rate, consumer and producer face the same problem as in the eighteenth century, viz., that of reaching each other with the minimum of middleman cost. The acuteness of the problem can be realized by comparing the price received by the producer even in the counties adjacent to the metropolitan area with the prices charged in the retail shops. One advantage the modern producers have. In the eighteenth century the middlemen had a much greater control over the transportation arrangements than is the case to-day. The development of the great transportation companies, the rise of the legal doctrine of the common carrier and his responsibilities, the control exercised by the community over rates, all represent a distinct advantage in present-day efforts to eliminate as much as possible of the cost of the middleman service. It is partly because the modern world faces full grown many of the problems that eighteenth-century England faced in their earlier stages, that a study of economic and

[1] The success of Farmers' Clubs in recent years in co-operative buying of seed, fertilizers, and implements, is more than counterbalanced by the failure of their attempt to establish co-operative retail stores.

[2] E.g., The Northumberland County Apple Growers' Association in Ontario.

social conditions in that century is both interesting and profitable. We already possess valuable studies of some individual industries,[1] and of the middleman during the period under discussion, and Mr. Furniss' study of Mercantilist theories of labour is a good introduction to that side of the question. It is hoped that the present study may in some measure serve as a more general introduction to the study of England on the Eve of the Industrial Revolution.

[1] See Bibliography at the end of the present volume.

LANCASHIRE,
for the
AGRICULTURAL SURVEY
taken in 1793, by
I. HOLT,
Sketched from a Survey of the
COUNTY.
By Wm. Yates.
CUMBERLAND
WESTMORELAND
YORKSHIRE
CHESHIRE
IRISH SEA
HAWKS HEAD
Furness
ULVERSTONE
CARTMEL
DALTON
BAY OF MORECAMBE
KIRKBY LONSDALE
LANCASTER
River Lune
Fylde
KIRKHAM
Moss
PRESTON
River Ribble
CLITHEROE
COLNE
BURNLEY
BLACKBURN
HASLINGDEN
CHORLEY
ROCHDALE
BOLTON
BURY
WIGAN
MANCHESTER
PRESCOT
WARRINGTON
LIVERPOOL
River Dee
River Mersey
To London
Furness. Craggy Mountains of Lime & free stone, with woody declivities and fertile vales.
Fylde. A fertile Plain except some Moss & Marsh land soil in general Loamy.
Moors & high Lands partly Arable interspersed with many Rivulets & fertile vales, variety of soil but thin: Limestone in the neighbourhood of Clitheroe.
Low lands made fertile in general by art, except some Moss & waste lands which are yet capable of improvement.
Coals in general the superficies the same as the adjoining Lands, except such as may have been injured by Pits Roads & Rubbish left.

ENGLAND ON THE EVE OF THE INDUSTRIAL REVOLUTION

PART I

AGRICULTURE

CHAPTER I

TECHNIQUE OF AGRICULTURE

Crops, Rotation, Tillage, Implements, Stock

Lancashire presents many varieties of soil, and hence of farming conditions. The accompanying sketch [1] shows the county divided roughly into five varieties of countryside. (1) The northern part of Furness is most remote from the industrial parts of the county, and consisted of "cragged mountains of lime and freestone, with wooded declivities, and fertile vales." Red sandstone, millstone grit, mountain limestone, and clay slate are the chief geological features of the district. Arable in the lower parts, it changes to grass, and finally to sheep farms in the hilly regions. (2) The peninsula between the estuaries of the Lune and the Ribble is known as the Field, or Filde. Apart from some moss and waste lands, it is a fertile plain, with almost every kind of soil, from stiff clay to sand or bog. (3) These districts are the moors and highlands along the eastern border of the whole county, except for two narrow intervals, one along the valley of the Ribble, up to Clitheroe, and the other the coal area from Blackburn to Colne. The soil on the mountainous slopes is thin, and

[1] The sketch is from Holt's *General Survey of the Agriculture of Lancashire*. In 1795, Holt was a farmer at Walton, near Liverpool, and made the survey for the new Board of Agriculture. The description is partly from his material, and partly from *Victoria County History, Lancs.*, II, 419.

of a black moorish nature. At the foot of the hills it is of stronger quality, occasionally becoming a stiff clayey loam. (4) The southern part of Furness is allied with a comparatively narrow strip from north of Lancaster to the Ribble at Preston. An arm of this district extends up the Ribble valley while the main portion broadens out to include the Ribble-Mersey peninsula, and turning eastward stretches up the valley of the Mersey beyond Manchester. Except for moss and waste lands, this is a low-lying plain made fertile in general by art. It rests on the new red sandstone, and was in the eighteenth century the main portion of agricultural Lancashire. The soil is mostly strong clayey loam, on a clay subsoil, requiring underdraining to produce the best results. (5) These are the coal-bearing areas; the narrow strip extending from Blackburn to Colne, the area from Preston to Wigan, through Bolton to Bury and Rochdale, and a tongue running northward from Wigan to Chorley. The superficial soil resembles the surrounding districts. The county is screened from the east winds by the hills, and has an unusually great rainfall.

Probably the most recurrent phrase in eighteenth-century agricultural literature is "new and old husbandry." Until after the Industrial Revolution was well under way the conflict between these two went on. The old husbandry was practically universal on the arable land of England, enclosed and open. It is simply the open field rotation of fallow, wheat or barley, and oats. Occasionally, to cleanse the land more thoroughly, a root crop or pease or beans was inserted. But even this slight improvement made little progress until the second quarter of the century. Edward Laurence in 1726 says that "instead of three fields of tillage as the common practice is, all late experience teacheth four are better."[1] Before discussing the advent of new crops, let us briefly examine the staple grain crops of the period.

Grains.—Wheat, the most difficult to raise successfully, usually followed the fallow and was sown from September

[1] *Duty of a Steward*, pp. 180–1.

to March. Four main varieties of wheat were cultivated in England about 1760. The commonest was a beardless, long-eared wheat, each ear carrying four rows of grain. A variety of spring wheat was not so good. A grey, or duck-bill wheat was grown in parts of the eastern counties, but had attained no general popularity. The fourth was a red or white cone wheat, and was a favourite in Oxfordshire and Berkshire. Its name was derived from the fact that it had a red grain in a white ear.[1] On cold lands and stiff clays, as in Hertfordshire, Staffordshire, and parts of Essex, varieties of bearded wheat were grown, but like other minor varieties they were not widespread.[2] Rye was sown in poor soil in preference to wheat and was in many places the food of the poor.[3]

The most popular method of preparing the seed for planting was that of steeping it in brine. This practice is said to have originated accidentally.[4] "The first brined wheat sown in England was the freight of a ship that sank near the shore. The wheat was rescued, and when sown produced the best crops in the neighbourhood." By the end of our period, however, the most advanced farmers perceived that the chief value of brining was the floating of the light poor grains, which were then skimmed off.[5] Other methods of securing the same result were recommended. Mills suggests throwing the seed some distance with a shovel so that the light grains, falling short of the others, might be separated. Others, Tull amongst the earliest, recommended securing the seed grain from richer land than that to be planted.[6]

Earlier in the century it had been usual to sow three or four bushels to the acre, and even when Arthur Young toured the north, the practice had not been abandoned. Mills, following the earlier example set by Miller in 1759, is in 1763 advocating sowing less seed to secure healthier

[1] Miller, 1759: *Gardeners' Dictionary*. Article, "Hordeum."
[2] Mills: *Husbandry*, I, 360–3.
[3] Postlethwayte: *Universal Dict.*, 1766. Article, "Corn."
[4] Monk: *Dict. of Agriculture*, 1795, III, 290; quoted from *De Re Rustica*, II, 47.
[5] Mills: *Husbandry*, I, 292.
[6] *Ibid.*, I, 289.

plants and a larger yield per acre.[1] The idea spread rapidly, for in 1770 the average amount of seed in the north was $2\frac{1}{4}$ bushels, while in Lancashire it varied from 2 bushels in the south to $3\frac{1}{2}$ in the north. The average crop from 2 bushels of seed or less was 22 bushels, while the average from 3 bushels or more was only $23\frac{1}{4}$ bushels. These examples must have been scattered over the north generally, because the average yield in Lancashire was 32 bushels to the acre.[2]

During our period the practice of mowing wheat with a scythe was introduced, but at first met with little success. In 1764 a farmer near Manchester tells how he attempted mowing wheat with a scythe some years before, but was unsuccessful owing to the opposition of his labourers, who deliberately spoiled a bit of wheat.

"It was in vain for me to contend; I had no money to throw away, and it would have been highly improper for me to attempt encountering the prejudice of the whole parish; for my brother farmers joined with the labourers, vowing they would never countenance innovations in husbandry." [3]

Thus the conservatism of the farmer united with the labourer's fear that he and his would be injured to prevent the progress of the industry. He speaks enviously of a Yorkshire farmer who said the custom had been in use there for a long time.

Four main kinds of barley were in common use. The spring barley with four rows of grain on was the most generally cultivated. The common or long-eared barley was an excellent grain, and much cultivated, but many objected to it because it had slender stems and easily lodged in bad weather. Sprat barley, with short broad spikes, was popular round Fulham and in parts of Wiltshire. Winter, bear, or big barley was for its hardihood most generally cultivated in the north and in Scotland. It was generally sown in the autumn, and often took the place of wheat in the crop rotation.[4] The usual seed in the north was

[1] Mills: *Husbandry*, I, 292.
[2] Young: *Northern Tour*, IV, Letters 31 and 32.
[3] *Museum Rusticum*, II, 364 ff. The Yorkshire farmer was a Mr. Comber, of East Newton.
[4] Mills: *Husbandry*, I, 417.

4 bushels, in Lancashire 3½ with an average yield of 28¼ bushels. The greatest yield was, however, from 2 bushels or less seed, and reached 34½ bushels, while the yield from 4 bushels was only 30½ bushels.[1]

Varieties of oats were chosen according to their value as food for horses or for men. A hardy red oat was much grown in Derby, Stafford, and Cheshire, but was seldom seen in any county near London. The black oat was extensively grown for horses in the north. Round London a white oat was popular, which while good for horses was also suited for human food, and was much grown where the inhabitants lived much on oat-cakes. In the north, in Scotland and Wales the naked oat was very popular. It threshed clean out of the hull, and so could be ground into meal at home.[2]

Oats, usually sown after wheat, rye, or barley, were grown more in the north, because there they were in favour as human food. They occur in every rotation of crops described by Young in Lancashire, following barley in the north and wheat in the south. Like potatoes, they were one of the staple crops of Lancashire, and held their commanding position throughout the century in spite of the rapidly rising price of wheat after the 'seventies. They are the principal grain in 1795,[3] apparently because they form such an important article of diet for the people. "Oats, oats, oats are universally sown towards the north-east and south-east of Preston for years together except the chain be broken occasionally by a crop of potatoes and afterwards wheat."[4]

Naturally the Lancashire farmers were conspicuously successful in the cultivation of oats. With an average of 5½ bushels of seed they reaped an average of 43 bushels, which was somewhat higher than the general average of the northern counties. These crops were of course before the eighteenth-century improvements in method had taken place.[5]

Rye and pease were grown in the northern part of the

[1] Young: *Northern Tour*, Letters 31 and 32.
[2] Mills: op. cit., I, 406–8.
[3] Holt: *Agriculture of Lancashire*, p. 24.
[4] Holt: op. cit., p. 26.
[5] Young: op. cit., Letters 31 and 32.

county, but very little if at all in the south.[1] From 3 bushels of seed the crop averaged 32 bushels of rye, and 30 bushels of pease. Beans appear in all districts, with a crop of from 30 to 40 bushels from $2\frac{1}{2}$ to $4\frac{1}{2}$ bushels of seed. In all three the Lancashire average was considerably higher than for the north in general. Rye exceeded the general average by 6 bushels, pease by 9 bushels, and beans 8 bushels.[2] Other crops such as maize, rape, and buckwheat were not cultivated generally and where found are of local interest.

New Crops.—Grasses. The new crops referred to were artificially cultivated grasses and some garden crops transferred to field cultivation. Under the old husbandry the process of laying a field to grass was the simple but uneconomical one of ceasing tillage. In the course of three or four years a sort of balance of power was reached between weeds and grasses, and the result was called pasture, a practice still to be seen in parts of Kent. About the beginning of the century arose the practice of sowing grass seed with the last crop of grain, which tilted the scale heavily in favour of the grass and a sward for pasture or meadow was ready the following season. White clover is an example of the native grasses deliberately cultivated, while saintfoin, clover, and lucerne represent imported foreign grasses. Tim Nourse at the beginning of the century sets forth the position, showing that foreign grasses were gaining in popularity. He admits their undoubted advantages to the individual, but thinks they should be prohibited by Parliament because their use was lowering the rental of what was formerly the best meadow land. "Meadow and feeding grounds are fallen at least 15 per cent. since the importation of these foreign sorts of grass." Again, "lands which were not worth above five shillings an acre, after they are sown with Clover or Saint Foin are worth yearly 25 or 30 shillings." Another benefit is, "'Tis very true, by means of these foreign grasses more corn and

[1] They do not appear in the rotations mentioned by Young, nor in his tables of average crops.
[2] Young : op. cit.

cattle are raised than would be otherwise."[1] He admits also that sowing clover with the grain helps to suppress the weeds, which would otherwise choke the grain, besides poisoning the ground for some time afterwards.[2] His attack was evidently a last stand against an inevitable improvement, and when Edward Laurence writes in 1726 he is unreservedly in their favour. "Clover, trefoil . . . are improvements to the land by bringing it suddenly to turf, and by the richness of the feed causing them to keep near three times as many cattle."[3] By the 'sixties their cultivation had become fairly general. A writer in 1759 says: "Clover has been so much cultivated for near a hundred years past that the seeds have been scattered over most of the English pastures, so that there are few of them that have not clover mixed with the natural grasses."[4] Another in 1764 says that "a spirit of improving our artificial pastures seems to be raised in most counties."[5] But the old method of leaving nature to seed the meadow was still very common. Arthur Young gives some particulars on this point. In all the districts of Lancashire which he visited, clover either appears in the crop rotation or is otherwise mentioned. In the north, though not common, it is sown with barley. Along the Preston-Liverpool road, round Ormskirk, they have great crops of clover which they reckon more valuable than corn. In the south, between Warrington and Altringham, it is used chiefly for hay, and yields two tons per acre. On the average in the places he mentions a crop of clover is 1 ton 13 cwt. at each mowing.[6] Since Lancashire was not an advanced county agriculturally, it would seem that the experimental stage was well advanced if not already passed. All the more progressive farmers had adopted the principle of artificial as against the natural laying down of meadow land. All that remained in the battle of the "new" against the "old" husbandry in this

[1] Tim Nourse: *Campania Felix*, 1700, pp. 83–92. Quotations from 87–8.
[2] *Ibid.*, p. 47.
[3] *Duty of a Steward*, p. 184.
[4] Miller: *Gardeners' Dictionary*. Article, "Trefolium."
[5] *Museum Rusticum*, II, 60.
[6] *Northern Tour*. Chiefly Letters 18 and 29.

connection was to expand the areas until the use of the grasses was not only general but universal. Mills in his work on Husbandry in 1763 takes their use for granted, discussing only the best methods of sowing and feeding them. One of the least known was Timothy grass. Although introduced from America, it was found to be a native. A request for information brought forth a number of letters which are reviewed by a writer in the *Museum Rusticum* in 1765.[1] Lucerne and burnet, however, never achieved any wide popularity. Clover was the grass that gained most general favour in this period.

Roots and Cabbages.—The garden crops transferred to field cultivation were turnips, carrots, potatoes and cabbages.[2] The growing of turnips is usually associated with the name of Lord Townshend. But while his high rank and the extent of his experiments made his contribution greater than that of any other individual, yet the "growing of turnips in fields for cattle began about the beginning of the century."[3] Roots are first mentioned as a field crop in Flanders by Weston in 1652,[4] and turnips in England by Worlidge in 1689,[5] while Defoe remarks that they were first fed to cattle and sheep in Suffolk.[6] Nourse in 1700 makes no mention of any root crops in the fields. As Norfolk was generally regarded as the most advanced county in England agriculturally, we may conclude that a writer of that county is speaking of the earliest general use for cattle when he says they were introduced about the beginning of the century as a field crop. That date falls a decade later than Worlidge's earlier recommendation, and nearly a quarter of a century before Defoe wrote.

But their use made little progress till after 1730, when Lord Townshend retired from political life and threw his energies into improving his estate at Raynham. His greatest contribution to the progress of agricultural science was

[1] *Museum Rusticum*, 1765, Letter 68.
[2] Cf. Adam Smith: *Wealth of Nations*, I, 86 (World Classics Edition).
[3] *Gentleman's Magazine*, Oct. 1752: "Rotation of Crops in Norfolk."
[4] Weston: *Discourse of Husbandry used in Brabant*, p. 26. Quoted by Cunningham: Eng. *Ind. and Comm.* II, p. 546, Note 1.
[5] Worlidge: *Systema Agricultura*, 1689.
[6] *Tour*, I, p. 51 (Ed. 1762).

perhaps in reclaiming waste, reviving marling, and mixing of soils, thus raising immensely the value of hitherto almost barren tracts of land. But turnip-raising was one of his special hobbies, and his conversation was so largely of turnips, says Pope, and he was so zealous in advocating them, that he was nicknamed Turnip Townshend.[1] The great increase in the value of his land, and his application to turnips of the new Tullian drill husbandry, caused his experiments to attract unusual attention.

Until the end of the century the common practice was to sow the turnips broadcast, even where hoed later. When the turnips were two or three inches high they were thinned by hand. When the crop was ready the cattle were turned into the field and the roots eaten off. About 1750 feeding the turnips in the stable was begun. Before the end of our period the culture of turnips as a field crop was fairly general but in the north at least not by any means universal. The chief concern of the literature of the 'sixties and 'seventies is with the methods of culture, of feeding, but also with means of destroying the "fly," a pest which attacks the young plants just after they emerge from the soil. Its prevention was secured by steeping the seed in different mixtures before sowing, or by rolling as soon as the turnips came up to prevent the young flies emerging from the ground.[2]

Turnip cultivation spread more rapidly in the south than in the north. Even in 1726 "turnips are too much neglected in the north."[3] They were not generally cultivated in Lancashire as late as 1770, and nowhere is it mentioned that they are "hoed," that is with the horse hoes, or cultivators.[4] They carry a high value per acre, but Young attributes this to their scarcity rather than to a large crop. Not only was Lancashire backward in this respect, but the north[5] generally was slow to develop in

[1] Curtler: *Hist. of Eng. Agriculture*, p. 183.
[2] Monk: *Dict. of Agric.*, I, 153. Various methods are described there.
[3] Laurence: *Duty of a Steward*, p. 183.
[4] They "know nothing of hoeing," "they are never hoed," "though not hoed," are expressions that occur throughout the Lancashire part of the tour.
[5] By "the north" is meant Yorks., Lancs., and the counties northwards.

this respect. Even where grown, the larger proportion is unhoed, while in the south the ratio is reversed. Curiously enough, it is the unhoed crop that in the north carries the higher value, £3 16*s.* as against only £2 14*s.* for the hoed crop.[1] The northern farmers had not realized the dual value of hoeing, increasing the crop and cleaning the field. It will be seen that Lancashire was indeed backward with regard to turnips, but it made up in potatoes. The suggestion may be hazarded that the popularity of potatoes in that county made the progress of turnips slow. For even in 1795 Holt says that turnips were grown on a very contracted scale, and still but seldom hoed. He also states that the first trial of them was by Wm. Diconson, near Wrightington in 1764.[2] In view of the number of instances mentioned by Young only five years later, it would seem that 1764 is too late a date.

Norfolk remained the county famous for the culture of turnips up to the close of our period. In that county they cultivated "great quantities of turnips for the feeding of black cattle," and the same writer alludes to the practice of laying the roots up in barns. Manuring of the land for turnips "has become a great improvement to barren, sandy land, particularly in Norfolk, where many persons have doubled the yearly value of their land by the culture of this plant."[3]

While the turnip was a garden plant adapted fairly late to field cultivation, potatoes seem from an early date to have been a field crop. Introduced by Sir Walter Raleigh in 1588, they were at first only to be had by people of fashion, and for this purpose were much cultivated round London about 1650. In Ireland by 1676 they had become as cheap as 1*s.* 8*d.* a bushel, but were not cultivated in Scotland until 1683. By 1710 they are noted as one of the chief crops of the Isle of Man.[4] By 1690 they had begun to spread to all parts of the kingdom,[5] but this probably

[1] *Northern Tour*, IV, Letter 24.
[2] Holt: *Agriculture of Lancashire*, pp. 28–36.
[3] Mills: *Husbandry*, III, 153.
[4] *Lancs. and Ches. Ant. Soc.*, XX, pp. 55–7.
[5] Houghton. Quoted by Curtler: *Hist. of English Agriculture*, p. 106.

means as a garden vegetable rather than as a field crop.

It is generally accepted that they were introduced into Lancashire from Ireland, and that that county was the first place in England where they were much grown.[1] First planted as a field crop about 1634, they were an article of common diet long before they were known except as a garden vegetable in other parts of England. In 1712 they were on the table of a Mr. Thos. Tyldesly near Blackpool, and by 1746 are included in the announcement of the New Church Market in Rossendale, in the eastern uplands. In 1758 they were sold in Manchester at 9*d.* a bushel. Ben Brierly about the same time is enthusiastic in his praise of potato pie as a common dish in Lancashire. It may be safely assumed that by 1750 they had become important as a field crop.[2] As such they were little known outside of Lancashire until the second quarter of the century. Edward Laurence, though mentioning clover grass and turnips, says nothing of potatoes.[3] In contrast with turnips, they seem to have achieved popularity first as a human food, and afterwards to have been tried for feeding cattle.

The extension of potato culture beyond Lancashire began about 1730, and by 1763 had become established in almost every part of the country.[4] With the necessary allowance for smaller population, a report of 1795 may be taken as describing the condition in 1770. "In the neighbourhood of every small town, you find extensive fields of potatoes generally; but in distant parts of the country no such thing is seen, except in some parts of Lancashire and Cheshire, near to the Canal." They had become a common article of diet for the poor, and also for the rich, who at first had scorned them.[5]

[1] Baines: *Lancs. and Ches.*, II, 19: "It was about this time (the reign of Chas. II) that the potato began to be extensively cultivated and used in Lancashire, as appears from the fact that a potato market was established in Liverpool about 1678."

[2] *Lancs. and Ches. Ant. Soc.*, XX, 55–7.

[3] *Duty of a Steward*, 1726.

[4] Mills: *Husbandry*, III, 182.

[5] *Report of the Committee of the Board of Agriculture on Culture and Use of Potatoes*, 1795, p. 120. Also Enfield: *History of Liverpool*, p. 5 (1774), "The cultivation of potatoes has of late been so much attended to in this county that the husbandman often depends more on a good crop of potatoes than of wheat or any other grain." Also p. 159, Hints from Holt of Walton.

The method of cultivation in Lancashire may be taken as representing the progress that had been made by the end of our period. The particulars given by Arthur Young are most complete, and the nearest to our date.[1] The method improved as Young proceeded south through the county. Round Kabers, Ormskirk, and to some extent at Liverpool, the land was ploughed and the plants were weeded. The crop averaged about 150 bushels to the acre. Near Warrington and other places the ground was dug, and the plants hand weeded, sometimes hand hoed as well, and the crop was from 380 to 700 bushels per acre.[2] All the best crops were from land that was dug rather than ploughed. The sets were planted from 8 inches to 10 inches apart each way. They were not much in favour for cattle and sometimes the market was over supplied. Where fed to cattle they were boiled by steam in specially constructed boilers. Holt remarks that they were commonly eaten with meat, and he thinks this accounts partly for the much lower consumption of bread in the north than in the south.[3]

The culture of carrots in Lancashire is not mentioned by Young, although sometimes in the 'fifties they were sown as a field crop. In 1763[4] this "useful and profitable practice does not yet extend to more than a few parts of the country."

Miller thinks that an acre of carrots will feed more cattle than three acres of turnips. A writer in the *Museum Rusticum* quotes experiments to prove that they are specially good for dogs and hunting horses.[5] Young says that the whole turn of evidence shows them to be superior food for horses.[6] But in spite of these supporters, carrots as a field crop for cattle never seem to have had any real chance of ousting turnips for popular favour.

[1] *Northern Tour*, IV, Letter 27.
[2] Young refers to a 48 lb. bushel.
[3] Committee on Potatoes. Potatoes afford two meals a day to many families of the labouring class. "There are many families in the northern counties WHICH NEVER EAT BREAD EXCEPT AT TEA."
[4] Mills: III, 193: "Of late this root has been cultivated for feeding cattle in the fields of England."
[5] *Museum Rusticum*, I, 332, in 1763.
[6] Young: *Annals of Agriculture*, II, 144, in 1784.

In a similar way, cabbages are not mentioned in Lancashire, and if grown as a field crop at all in our period, it was only by a few experimenters. In some few places, probably where the soil was specially favourable, they were grown as a milk-producer for dairy cattle. Cabbages required a more intensive tillage of the soil than was common at that time,[1] and so had little chance of coming into general use. Young quotes one instance of an experiment in Yorkshire. The farmer sowed thirty-six acres with cabbages for milk cows, and fatting beasts, and reckoned a profit of £11 9*s.* per acre.[2]

Rotation and Tillage.—The first effect of the introduction of new crops was to alter the rotation. Farmers found that turnips, instead of impoverishing the soil, enriched and cleaned it and made it possible to eliminate the unproductive year of fallow. Mills speaks of this effect thus, "Since Camillo Tarello [3] (an Italian writer of a couple of centuries before) not much attention had been paid to this important point of husbandry (the changing of crops on a rational principle) till lately, when the culture of turnips probably gave the useful hint; the farmer observing that his land, instead of being impoverished by that root was enriched and prepared to yield a better crop of barley in the spring." He also quotes from the Report of a Society in Scotland, "some crops as pease, beans, clover, and all plants of the pulse kind are enrichers and cleansers of the earth."[4] The first improvement lay in substituting the four-course tillage for the three-field system. This institution of the four-course husbandry is usually attributed to Townshend in Norfolk. But as we find Edward Laurence in 1726, four years before Townshend retired from politics, advocating it not as a theory, but as the result of experience, we would conclude that the publicity attending the work of Townshend led many to attribute

[1] Mills: *Husbandry*, III, 147.

[2] Young: *Northern Tour*, II, 109. In this connection he also says that cabbages give five times the profit of turnips for cattle feeding and are a much more certain crop.

[3] Tarello made a report on agriculture to the Senate of Venice in 1566. Noted by Mills, *Husbandry*, I, 346 *et seq.*

[4] Mills: *Husbandry*, I, 355–6.

its origin to him, whereas he merely popularized it. The rotation Laurence recommends is based on the culture of pulse. After the fallow, there is to be a crop of wheat or barley, then pease or beans or both, then oats, and the fourth year fallow again.[1]

It was in the application of this rotation to the use of clover and turnips that Townshend rendered distinct service, and his plan came to be called the Norfolk husbandry. Naturally the knowledge of the recuperative effect of clover and roots on the soil, reaching many minds and being applied to different kinds of soil, led to great variety in the rotations used in different parts of the country. This diversity of rotation is well illustrated in an article contributed to the *Gentleman's Magazine* in 1752. It gives the course of husbandry in all the arable fields in an enclosed farm of 267 acres, from 1739 to 1751. There were twelve fields, and the course of husbandry extends over thirteen seasons. In only two fields was there a fallow, and in neither more than once during the whole time. In six of the fields the land lay untilled for one or two years at the beginning, but this was because it had been freshly marled, and the practice not to till for a couple of years after that operation. In no two fields was the rotation the same, but there is a common principle to be traced. The grain crops are mostly wheat and barley, with pease occurring in each of seven fields, and oats in one. For the rest the wheat and barley are interspersed with crops of clover or turnips. The clover occurs once, twice or thrice in succession. The turnips are always followed by a grain crop.[2]

This diversity of rotation in the home farm of an estate in such an advanced county as Norfolk probably represents the high-water mark of advance in that respect. The land is made as productive as possible by advanced methods of tillage, and by replacing the unproductive fallow with profitable crops such as clover and turnips, which rein-

[1] Laurence: *Duty of Steward*, pp. 180–1. See *supra*, p. 2. Laurence, as a surveyor of estates for gentlemen owners, had seen English agriculture in many counties, and was doubtless basing his recommendation on a fairly wide observation.

[2] *Gentleman's Magazine*, Oct. and Nov., 1752. For the rotation in full, see Appendix I, *infra*.

vigorate the soil, and are much better for clearing it of weeds. The more usual side of the picture of the day is found in Young's account of the rotation prevalent in Lancashire in 1770.[1]

Between Warrington and Prescot, we find the old three field system still in vogue on some farms, though others are more advanced and have introduced clover for the fourth year. Round Holme in the north some farmers allowed the land to lie to its own grass after a fallow and three grain crops. Others fallow, and after two grain crops and a year of clover, allow four grain crops, and then let it lie to its own grass. For this, Young delightfully remarks, "The slovens deserve to be hanged." For the same offence round Garstang after three grain crops, and one of beans, he is not so drastic, but equally sarcastic. "They leave the land to graze itself, and they assured me very gravely the grass was excellent." In the district round Kabers and Cockeram, near Lancaster, the three course system is mitigated by a crop of beans in the sixth year, making the rotation a mixture of the three and four courses. Round Ormskirk, however, they are somewhat more progressive, for the rotation after breaking up the grass is oats, wheat, barley, oats, a recuperative crop of vetches, then barley, followed by a three or four year course of clover, after which it comes to grass itself, and "excellent grass it must be." On the road from Warrington to Altringham, the ordinary four course rotation of fallow, two grain crops and clover is apparently the most prevalent. Thus we have in Lancashire a picture of a state of things very little advanced beyond the four course system, some of the remoter districts being still under the ancient three year system. Of course, this condition is everywhere in the county mitigated by the numerous fields of potatoes, none of which are included in the specimen rotations. And we must note too that Lancashire was more a grass county than an arable, except in the north. This will become more evident when we come to discuss the size of farms and the effects of enclosure. England as a whole may

[1] Young: *Northern Tour*, III, Letter 19.

be taken as being, on the eve of the Industrial Revolution, on the way between the somewhat backward condition of Lancashire and the very advanced stage represented by the Norfolk farm described above.

These changes of rotation are but the flying columns of the advance, appearing in many cases long before the main battle was joined on the question of tillage. In the minds of many, the new husbandry and the horse-hoeing of Tull were synonymous. Others took a broader view and recognized the changing of crops as an integral part of the struggle. Clover was introduced extensively after the Restoration, and turnips spread to the fields soon after the beginning of the century. The advance guard of the new tillage appeared in the person of Jethro Tull in 1726, ably supported a few years later by Townshend at Raynham, who gave Tull's principles currency by applying them successfully to his own extensive estates.

Jethro Tull published in 1726 his work on *The Horse-hoeing Husbandry*. He believed that the plant food was found only on the superficies or outer surface of the particles of soil. Therefore, if plants are to get the maximum of food, the soil must be broken into as many particles as possible, so that the roots of the plant may come into contact with the maximum number of surfaces. This fine division of the soil aids in another way; being loose and fine, the soil presents no great obstacle to the roots, which are able to push their way much farther through the soil, and so a greater root surface is exposed to the freshly divided soil. This division of the soil may be obtained either by the application of manure, or by cultivation.[1]

Of the two methods, Tull pinned his faith to cultivation. Manure was only valuable as it hastened the process of pulverization, and he says that after long experience, notwithstanding the benefit, I have these several years left it off, finding that a little more hoeing will supply it at much less expense. He tells of some neighbouring farmers who had accidentally discovered the advantage of more ploughing through the failure of the crops first planted, when

[1] Tull's *Husbandry*, Cobbett's Edition, 1829, p. 68.

they had to plough again before planting the new crop.

Tull might have carried the community with him thus far, as is shown by the spread of double ploughing in his own county. But he extended his principle to the hoeing of the plants while they were actually growing, arguing that the soil needed the benefits then even more than before the seed was sown. He was simply applying the principle of vineyard culture to the crops of ordinary farming. To do this, the seed must be sown in rows, far enough apart to permit a plough to work amongst them. The result was that less seed was required, the crops were larger and healthier, they would not be so much injured by dry weather, and, in the end, there would be a much greater yield, with less expense.

There were two great objections in the minds of the farmers. They could not conceive how a field so scantily supplied with plants could produce as much grain as one sown in the old way; nor could they understand that opening up the soil and pulverizing it would conserve the moisture. Tull says that hoed plants need less moisture because they are better nourished and the hoeing lets the dew seep into the soil as it cannot do under the ordinary tillage. Moreover, hoeing increases the number of roots, and consequently the area of soil from which the plant draws moisture.

Then, again, his opponents fastened upon his comparative disregard of manure. The fact that for twelve years in succession he raised a good crop of wheat on the same field without any manure was to them an interesting curiosity but by no means of practical value. They failed to understand his argument that almost the only work of the manure was to assist by its ferment and decay in the pulverization of the soil.

The fact that he was a stranger in his county made the neighbouring farmers suspicious of his improvements. This was accentuated by his almost continuous illness, which would cut him off to a great extent from association with his neighbours.[1] He also lacked the prestige of title

[1] Tull's *Husbandry* (1829 Ed.), Author's Preface, p. 1.

and large estates, which no doubt assisted the success achieved by Townshend. The latter had a further advantage in that he applied the new ideas not only to land hitherto fairly successful, but to barren, sandy land, which had formerly yielded little or nothing. To see the desert yielding fruit was more convincing than to see the fruitful field more fruitful. Again, Townshend manured extensively, and revived the practice of marling, on a large scale. He was not so much a slave to a theory as Tull, and while admitting the value of the principles, he incorporated them into his own system instead of setting them up as a new system. Hence his example was followed over most of Norfolk, while Tull was practically unimitated in his own county during his lifetime.

A further obstacle in the way of victory for Tullian husbandry was the necessity for new implements. Their expense was a barrier to all the small farmers, and even as late as the 'sixties, very few artisans could construct them.[1] So it was left for the progressive landlords with money and initiative to get implements specially constructed, and to make the experiments necessary before Tull's ideas could spread. Tull's insistence on applying the methods to grain may also have been a retarding influence. The obvious application of the ideas was to roots, which were already being thinned and hand-hoed in some parts. But even as late as 1759, so progressive a cultivator as Miller is noting as an improvement that he has placed potatoes in rows three feet apart in order to introduce the horse hoe amongst them.[2]

Nevertheless, the ideas of the new husbandry were not neglected. By 1765, nearly every writer is convinced of their value. There is a general feeling that the old methods are the refuge of the indolent and ultra-conservative. Though the battle against conservatism and in some cases indolence amongst the mass of the farmers

[1] *Museum Rusticum*, IV, 148–9. The writer thinks that Tull's implements are still the best made public. He says, "I know not any workman who can make Mr. Tull's drills, and believe these instruments are as yet in very few hands."

[2] Miller. Quoted in Mill's *Husbandry*, III, 186.

was not won, there were eager experimenters in many parts of the country. In France, Tull's ideas had been enthusiastically taken up by Du Hamel, whose work on the drill husbandry is extensively quoted by Mills in 1763. Chateau Vieux, another French adherent of Tull, had invented implements to carry out drill husbandry, and the experience of another Frenchman, M. de Turbilly, is noted. "He has doubled the number of inhabitants on his estate, and quadrupled his produce, and this not on a small farm, but over a large extent of country." At the same time, Mills laments that Englishmen have never given Tull's principles a fair trial, "but have left the nation, our rival in glory, to determine its intrinsic merit."[1] Nevertheless, he puts forward the result of some experiments made in England and Ireland which clearly show the superiority of the new methods. Postlethwayte quotes an experiment from a source apparently independent of the agricultural writers.[2] This gentleman claims that in twenty years on 10 acres he had a surplus profit of £135 to the credit of the new husbandry or nearly £7 per annum. A Middlesex farmer[3] computes his profit in nine years on twenty acres as £149 more than by the common husbandry. An Irish farmer reports that on 40 acres in fifteen years there is a surplus profit of £969, or the amount of the fee simple of 18*s.* land at twenty-seven years' purchase.[4]

The new methods had gained a firm foothold over Norfolk, Sussex and Essex.[5] A writer in the *Gentleman's Magazine* in 1752 sums up the advantages realized in Norfolk. Wheat is increased five times, barley twice, in acreage, and the crop two or three times per acre. The whole county is more cheerful and comfortable, and supports twice as many families, who have twice as much work, and the necessaries of life are cheaper. There had been a considerable subdivision of farms, and large increases in value. The new methods had lessened the value of other-

[1] Mills, II, pp. 2–3.
[2] Postlethwayte: *Universal Dictionary*, Article, "Husbandry."
[3] *Museum Rusticum*, IV, p. 81.
[4] *Ibid.*, VI, pp. 280–7.
[5] *Ibid.*, Letter 46, Aug., 1763. From an Essex land-holder.

wise rich lands by improving the value of the poorer ones. The use of artificial grasses had spread very rapidly between 1730 and 1750, while in a few years the acreage under wheat in Norfolk had increased by 20,000 acres.[1]

One result of the new methods was an increase in the amount of arable land, and the production of corn. The bounty on export was an encouragement in this direction, for it assured the farmers of a market even when the crop was large. The new husbandry was also assisted by the low price of wool, following the prohibition of export. There was also an increase in the Dutch demand for corn owing to decreased imports from Poland to Holland.[2] Outside the eastern counties and the district near the capital there would seem to have been no advance in the use of the new methods. Young says nothing about their presence in the north, and in Lancashire the ploughing is all on the old system.

Implements.—Closely connected with the methods of cultivation is the question of implements. In the seventeenth century some progress was registered. Patents were taken out for draining machines in 1628, for new manures in 1633–6, for new ploughs in 1623–7, and for mechanical sowing in 1634–49.[3] But the Civil War checked this incipient mechanical progress, and it was left for the eighteenth century to achieve the improvement, and actually to make and use the implements planned a century earlier.

Most important of the new inventions were the drills and hoe-ploughs invented by Tull. The first drill consisted of a frame carried between two wheels; a double-bladed share, adjustable for depth, was set near the front. On the frame behind the share was a seed-box with a narrow pipe running down to the furrow made by the share. A complicated arrangement of pulleys regulated the dropping of the seed. At first another plough followed the drill, but later a second share was set at the back to turn the soil back into the furrow. To some extent, these drills

[1] *Gentleman's Magazine*, Oct. and Nov., 1752.
[2] *Ibid.*, October, 1752.
[3] Curtler: *Hist. of Eng. Agriculture*, pp. 152–4.

were adjustable, but even as late as the 'sixties, three different ones were required, one for fine seeds like turnips, and the grasses, one for common pease, wheat, barley, oats and tares, and one for beans and large pease. Drills were sometimes made to sow several rows at once, but there had to be separate boxes for each row and separate arrangements for emptying the seed. This complicated structure accounts for the difficulty of getting them made by the country artisan. The hoe-ploughs were made in a similar way, but without the seed-boxes; they were much lighter than the ordinary plough and could easily be drawn by one horse, unless they had several shares.[1]

They were probably responsible for the introduction of the Rotheram or patent plough during our period. This was much like a modern single plough, but with shorter handles, and a curved instead of a straight coulter. Like the modern plough, it had a bridle at the end of the beam to vary the depth of the ploughing. This plough was in general use in parts of the east and south, but was not introduced into Lancashire until 1764 or 1765.[2] That the old ploughs were very generally used in Lancashire up till 1770 is clear from Young's description of the ploughing. The only districts where fewer than four horses are used is round Ormskirk, where the soil was a sandy loam. Even there, three horses were frequently used, while round Kabers in the north, six horses were still used. The economy of the new Rotheram plough will be seen when it is noted that on the farms where six horses are used, twelve or thirteen horses per 100 acres were required, while round Ormskirk only six were kept.[3]

There was also a wheel plough in use at the end of our period. It differed from the modern wheel plough in having the wheel running in front of the plough, and so could have had little effect on the depth of ploughing. But the advent of these ploughs is evidence of the growing importance attached to ploughing, and the search for easier and more economical means of doing it.[4]

[1] Mills. Compare this with the modern "cultivator" so extensively used.
[2] Mills, I, pp. 253–7.
[3] Young: *Northern Tour*.
[4] Mills, I, p. 257.

Mowing wheat with a scythe led to the use of a different shaped handle, with fingers arranged above the blade of the scythe, to keep the grain in a standing position till it was slipped off on to the ground. It was thus ready for the binder who followed up.[1] Threshing was still done with the flail, but Mills suggests an engine to wield a number of flails, and to be driven by horse, water, or wind power. He also describes the method of separating the weed-seeds from the grain. Fans and screens of different kinds were used, but wind is in every case the agent. The most advanced was a Dutch fanning-mill, which consisted of a number of fans, revolving on an axis in a box, and as the grain passed through the air current, the weed-seeds were blown out.

Manures.—When the impulse toward increased production was felt, the minds of farmers would turn to manures as a means of enriching the soil. The value of new crops and improved tillage would be appreciated only slowly, but the value of manure would be patent to all. This interest is seen in the fact that everything that would decay in the ground was utilized. Rags, bones, refuse from dyeing and fulling mills, soap ashes, bark, soot, and the scrapings of city streets, all entered into the list.[2] In the seaside districts, seaweed and other refuse from the sea was extensively used. "The value of the lands all along the coast of Scotland has been more than doubled by the use of this excellent manure." Shells are also mentioned as being in use in Cornwall, Devon, and other maritime parts of England.[3] Oil cakes were much used in parts of Cambridge and Essex, while malt dust was used as a preparation for wheat in Berkshire.[4]

These various fertilizers were local in their use, and the principal dependence was placed on marle and lime, the mixing of soils, paring and burning, and the use of barnyard

[1] Mills, III, p. 103. This is the Canadian "cradle," still used on Ontario farms to cut a road round the field for the binding machine.
[2] Monk: *Dict. Agric.*, II, p. 62 *et seq.*
[3] Mills, I, 89.
[4] *Ibid.*, I, 95. Holt in 1795 added the skimmings of the sugar refineries to the list.

dung. The operation of the first two was to change the character of the soil, either to open up clays and make them more easily tilled, or to consolidate sands and light soils to a finer consistency. In this, the farmer was half consciously aiming at the condition of the soil described by Tull. The others, however, had also the definite object of enriching the soil and repairing the waste of vegetable matter occasioned by former crops. The effect they would have in producing a more finely divided soil was not at first perceived.

Marle and Lime.—The use of marle is an illustration of the saying that there is nothing new under the sun except what has been forgotten. From the time of Pliny, this manure has been continually rediscovered and acclaimed as a new thing. The Charter of the Forest in 1217 restores to the Forest dwellers the right to make marle pits.[1] Fitzgerald in 1520 says that marling had doubled the value of lands in Lancashire, and Leland writing later in the century speaks of the ancient marle pits in Cheshire. Camden in 1600 writes of marle in Lancashire. There were marle pits in Norfolk, which had given names to enclosures as far back as the middle of the sixteenth century,[2] and similar evidence shows that the practice was equally ancient in Staffordshire and Somerset. A Welsh writer in 1603 describes marling as the "cheefest kinde of mendinge of the lande," in use in Pembrokeshire, and says that its benefit is to fertilize and bind "baren, lowse, and drie lande." All things being

> "accompted it trebleth in commoditie the chardge euery yeare after . . . this kinde of marle long sythence was much used about 100 or 160 yeares past . . . but it was whollie neglected till about 24 yeares past." [3]

A writer in 1752 says it was currently believed in London that Lord Townshend was the first inventor of marling or claying in Norfolk, while the fact is that he only took up the method on a large scale when few landlords would

[1] Stubbs: *Select Charters*, p. 347.
[2] *Gentleman's Magazine*, Oct., 1752.
[3] *Description of Pembrokeshire* (1603). Owen of Henllys, pp. 71–4.

incur the expense. It had formerly been done only an acre or two at a time.[1] By its nature, and with the existing transportation, it could only be used close to where it was found. Marle is a soft soapy earth found from 18 inches to several feet below the surface. When spread like manure and left a year or two to incorporate with the soil it greatly enriches the earth for twenty or thirty years, though its maximum value is past after fifteen years.

Its value lay in the fact that its slow effervescence opened up the particles of clay soils, and on light lands it tended to bind the loose particles together. Hence the extensive use of lime, which in heavy soils had a similar effect, especially when put on the land unslaked. If slaked, the soil lost the opening effect of the effervescence, though this was only dimly understood, and only one writer emphasizes the instruction to use it unslaked. This quality also explained why it was better for clay than for light lands, which needed a binding rather than a loosening manure. This tendency of lime to be too strong for light soils made it lose favour, but to the end of the period, marle was extensively used.

"Lime throughout most parts of the north is what they principally depend on . . . but from the intelligence I gained in many places, I have great reason to believe," says Young, "that this spirit of liming is not attended with the effect that many believe. Its greatest use, that of forming a part of composts, is little attended to." He says also, "the dependence on lime is everywhere too great, and the neglect of farm-yard dung universal."[2]

In Lancashire, marle is everywhere the chief manure, except round Burton in the north, where lime had only begun to be used in the late 'sixties. The cost of the marle varied with the distance of the fields from the marle beds, but in Lancashire was from £2 to £4 10s. per acre, and the effects lasted well from eight to twenty years. Round Garstang, they find a second and even a third marling to answer well. Lime where used cost from £3 to £6 per acre,

[1] *Gentleman's Magazine*, Oct., 1752.
[2] Young: *Northern Tour*, IV, Letter 41.

according to the amount used, which was usually from 80 to 200 bushels per acre.[1]

Round Altringham they have all sorts of marle, red, white, blue, black and brown. Young says they reckon it does best in the kind of soil it lies under.[2] But Mills says that the Staffordshire farmers reckon the soft blue best for arable, and the grey sort the best for pastures. In Sussex, the blue was considered best, and the grey third in the list. In Derbyshire they have a sandy marle that is specially good for clays.[3] The danger with marle was that it would in some soils subside below the operation of the plough and so be lost.[4] Chalk was used mixed with earth or dung in a similar way.[5]

Mixing of Soils.—The mixing of soils was not so general as the use of marle and lime. Its extensive use was largely confined to the eastern counties. Young in 1772 says that clay was used in Norfolk, Suffolk, etc., like marle. In the Annals it is stated that it is placed on sandy or gravelly soils with good effect. Marshall noted the same things about Norfolk but says that the earth was mixed with dung from the barnyards.[6] Monk mentions the use of sand on clay and moorish soil.[7] The clay was used in the one case to consolidate the light sands of Norfolk, and in the other to loosen heavy clays, and make them drier. Another method of mixing soils, easier, and therefore more widespread than the first, was the use of the mud from the beds of ponds and streams, and the fine mud scraped out of ditches in process of cleaning them. This made excellent manure, especially when mixed with dung.[8] Near Yarmouth, some stock-raisers used sea-sand as a litter for cattle, and when mixed with dung, it was highly valued as manure.[9] Young notes the value, especially from the second year on, of the

[1] Young: *Northern Tour*, III, Letter 18.
[2] *Ibid.*
[3] Mills: *Husbandry* I, 38.
[4] Monk, II, 194. Quoted from *Dissertations on Rural Subjects*, 1775.
[5] Mills, I, 71; also quoted by Monk in *Dict. of Agriculture.*
[6] Young: *Eastern Tour*, p. 291; *Annals*, IV, p. 413; Marshall, Norfolk.
[7] Monk: *Dict. of Agriculture*, II, 207.
[8] Mills, I, 110. *Farmers' Calendar*, 1771, p. 208.
[9] Monk: *Dict. of Agriculture*, II, 207.

use of sea-ooze, of which fifty loads to the acre were spread on the land.[1]

Paring and Burning.—Denshiring, or paring and burning, was a fertilizing operation very characteristic of the eighteenth century, and on the eve of the Industrial Revolution, was practised in nearly all parts of England, though not universally approved. Owen of Henllys describes the process in 1603, speaking of "bettinge and burninge the lande." The operation is thus described by Nourse, in 1700:

> "The way of burning land is by gathering the turfs into little heaps, in the hollow whereof, a little bush or faggot of dry wood is laid. After the turf has been well dried and parched by the sun, they set the hillock on fire, and afterwards scatter the parched turf and ashes upon the surface."

Its chief value was that it killed the weeds for some years, especially if the turf was pared deeply enough, "and in the saline or nitrous particles with which the ashes do abound."[2] Laurence in 1726 condemns the practice and speaks of it as new to his experience, so that it was evidently spreading into the north and east.[3] Though the practice had become general over most of the country it still found opponents. A Lincolnshire correspondent of the *Museum Rusticum* in 1764 defends the practice, and instances a farm where it had not been allowed. He permitted it to be done, and within a few years the farmer said he could keep one-third more stock. The operation should be followed by two crops of turnips, and then barley and other grains.[4]

Another writer the same year advances as the reasons why it was not more used; "first, the poverty of many small farmers on rack-rent; and second, landlords, seeing tenants thinking only of present profit, are in general set against this practice and deny leave to follow it."[5] It

[1] Young: *Eastern Tour*, II, 54.
[2] Nourse: *Campania Felix*, 1700, pp. 33, 35.
[3] Laurence: *Duty of a Steward*, 1726, p. 29.
[4] *Museum Rusticum*, II, p. 45.
[5] *Ibid.*, p. 167.

had been proven successful by a French experimenter in bringing waste under cultivation, especially heathy and furzy land.[1] Mills advocates it very strongly as a restorative to the land and to kill the weeds. It was specially good for worn-out meadows. He also recommends it as a first operation on newly reclaimed moors and boggy land.[2] It is also mentioned by Prof. Home of Edinburgh in 1756, who says it will improve poor soil, but is bad for rich soil.[3] Young sums up the situation in 1770 :

"Paring and burning is general throughout the north and west, and the price pretty equal everywhere, from 14 to 20*s.* per acre. Universal observation has proved it to be a most excellent practice. . . . Turnips are the crop everywhere sown after it."[4]

The name "denshiring," from Devonshire, shows that over part of that county at least the example of that county was responsible for its use, though the Welsh term, "bettinge and burninge," indicated that it arose elsewhere independently.

Dung of Farms.—The foregoing were, however, more or less in the nature of permanent improvements ; at least they needed only to be done once or twice in a generation on the same piece of land. The use of barnyard manure was a continuous process and went on everywhere. With the efforts to improve cultivation farmers cast about for means of adding to their stock of manure. To this end some tried to increase the amount of litter for the stock. They brought home ferns, and cut their stubble for this purpose. Straw and hay formerly often fed in the fields was brought home and used where the dung could be collected. Folding of sheep on different spots by means of movable hurdles so that in time a whole field was manured was a common practice. It became a common thing for farmers in the vicinity of cities to buy the manure available there and bring it to their farms.[5]

[1] Mills : *Husbandry*, I, 171 *et seq.*
[2] *Ibid.*, 110 *et seq.*
[3] Home : *Essay on Agriculture*, 1756, Pt. II, Sect. vi.
[4] Young : *Northern Tour*, IV, p. 482, Letter 41.
[5] *Ibid.*, III, Letter 18. "Altringham farmers buy dung from Manchester at 4*d.* to 7*d.* per ton and then cart home. They agree for it in the lump."

Not only were efforts made to increase the quantity of dung, but the use of mixtures or composts grew up during the first sixty years of the century. All the writers devote considerable space to composts. Soap ashes, for example, were mixed with earth and dung, in the proportion of one to ten, and made an excellent dressing for wheat.[1] The commonest efforts of this kind consisted in mixing the various kinds of animal manure together according to the kind of land on which it was to be placed, and covering the pile from time to time with earth so as to preserve the benefits of fermentation. But some elaborate composts were in use. Varley in 1772 recommends one composed of soot, dry ashes, unslacked lime, bay salt, sulphur, wheat pickle, galls and train oil, the whole to be covered with earth while fermenting.[2]

Such mixtures were evidence of attempts to understand the scientific basis of manuring the soil. Prof. Home in 1756 is the first writer who sets out to study the scientific principles of manuring. He discusses the different kinds of soils, and what manure should do for them, opening up the stiff heavy soils, consolidating the loose ones, enriching the poorer ones, and setting free the plant foods in the rich soils. He seizes on the principle of fermentation in the soil as that which prepared its ingredients to be received by the plant-roots.[3] His is perhaps the first series of experiments designed along modern lines to test the actions of different manure substances on the same soils and the same plants. He is followed by Mills, who comes to the conclusion that nitre is the thing needful, a close approximation to the modern fertilizers, which aim to supply nitrates to the soil. "In other words, could the earth be always kept in a fit state for collecting nitre, it could constantly be in a fit state for the production of plants."[4]

As always, however, the common practice was far behind

[1] *Museum Rusticum*, IV, 339.
[2] Varley, I, 167. Quoted Monk: *Dict. of Agriculture*, II, 104.
[3] Home: *Essay on Agriculture*, 1756. This essay gained a prize offered by the Scottish Society of Improvers in Agriculture. The author was an Edinburgh University Professor, and not a practical agriculturist.
[4] Mills: *Husbandry*, I, p. 54.

these thinkers. Young comments severely on the condition in the north.

"The raising manure in farmyards is at a very low ebb throughout most parts of the northern counties. This is due to the want of well-enclosed farmyards; there are scarce any that deserve the name; to the feeding of the hay about the fields—an execrable practice—the pastures are poached all the winter, and the dung largely lost; and lastly to the failure to chop the wheat stubble for littering the yards."

The folding of sheep which is so general in the south, especially Leicester, Wilts, Hants, and the eastern counties, is much neglected throughout many counties.[1] Thus in this as in so many other respects, the condition is one of the initiation of progress rather than a great general move forward, the slow gathering of forces that will at a later period sweep over the whole industry.

Drainage.—A few words should be said about drainage. Open drainage was not new, but the first crude under-drains seem to be the product of the early eighteenth century. The principle adopted in Lancashire was to dig deep, narrow drains, partially fill them with stones, brick or other rubbish, amongst which the water could make its way, cover the rubbish with branches, and fill up with the earth. Sometimes a fairly wide drain is made with a narrower one at the bottom. This narrow one was covered over with peat sods, and the wide drain filled up with brush and earth.[2] The flooding of lands with muddy water in order to improve their fertility was also followed to some extent in Lancashire about this time, but was not a general practice.

About 1720, the first attempts at the modern sort of under-draining seemed to have been made. Laurence quotes from a writer of 1718 a recommended method of draining land by artificial tubes or trunks of clay which "he saith hath proved one of the most useful inventions that has been found out . . . and will do in pasture, arable, or woodland, provided you work deep enough." The

[1] Young: *Northern Tour*, IV, Letter 41.
[2] *Museum Rusticum*, VI, p. 151, Letter from a Lancashire farmer, 1766.

recommended method was to dig a narrow trench about a foot wide, and at least a foot and a half deep. A wooden cylinder about 4 feet long, 5 inches thick at one end, and 4 inches at the other, was laid in the bottom of the trench. The clay was rammed in round this cylinder and formed a perfect tube. The cylinder was then pulled out, and the operation repeated, so that gradually a tube of clay was formed from one end of the drain to the other. A hole 3 inches in diameter was punched in each 4-feet section; sticks were put in it to keep it open, and a broad tile laid across the top. The trench was then filled up. It was recommended that these trenches should be placed 20 feet apart across the whole field.

"Thus you have a clayey field as hollow and unfit to retain water as a sieve. These tubes he has known to last for twelve years even in ploughed lands, and they cost 20*s*. per acre when the trenches are 20 feet apart." [1]

Live Stock.—"The introduction of the Tullian and Townshend reforms proved the pivot of agricultural progress. But to get the full benefit, live stock must be improved."[2] To this must be added, the increased demand for beef and mutton from London and the rapidly growing manufacturing communities. The middle of the century was a time of prosperity and of a good deal of solid comfort, so that the demand for meat would be greater even amongst the poorer classes. As such a large proportion of the country was under the common field system, the description given of the cattle on the commons at the beginning of the century is of interest.[3]

"And as the men, so are the cattle, that are bred upon such commons, being a starved, scabby, and rascally race. Their sheep are poor, tattered, and poisoned with the rot. Their cattle and colts dwarfed and ragged: for little beggarly Stone-colts, running promiscuously amongst the herd, beget a miserable, shotten and bastardly breed. . . . Nor are commons only injurious to horses but also cattle, the increase of such places being nothing but a sort of starved, tod-bellied runts, neither fit for the dairy nor the yoke."

[1] Laurence: *Duty of a Steward*, pp. 27–8. Switzer. Gardening, 1718.
[2] Prothero (Lord Ernle): *English Farming*, chap. VI.
[3] Nourse: *Campania Felix*, pp. 98–9.

When allowance is made for the vigorous epithets of Nourse, it will still be seen that little attention was paid to the breeds of stock on the greater part of the English farms. Sheep were valued only for their wool, cattle for draught power, or their yield of milk. Horses were to be wiry and active for the wretched roads rather than models of horse-flesh. The revival of hunting and racing had not yet called forth the fine breeding of later days.

The chief difficulty would seem to be the poor feed afforded by the open field. The system of allowing meadows to lie to natural grass meant that the ground yielded poor pasturage. The adoption of artificial grasses would at once improve the summer pasture, and provide much more hay for winter fodder. To this is due the increase in the number of cattle kept by those who made trial of the new grasses. Similar effects followed the introduction of root crops. Up to 1750, the increased food, and the consequent increase in the size of stock, was the only improvement. "No breeders had attempted real improvement in shape."[1]

The pioneer in this direction was Robert Bakewell, of Dishley, in Leicester. He tried with considerable success to improve the breeds of horses, cattle and sheep. Perhaps the greatest service he rendered was to rouse the spirit of improvement in the country. Once men began to select their breeding animals carefully, they would soon discover the characteristics which, when developed, would make the best varieties for local conditions. With cattle and sheep, early maturity, small bone, and a well-covered carcass were the desiderata. Some districts wanted cattle with a large yield of milk, some wanted beef. It was with sheep that Bakewell had his greatest success. The New Leicesters, as his breed of sheep was called, matured in two years, where the ordinary breed took three or four. They were hardy, compact, small-boned, and fat. In 1750, he let rams for the season at from 16*s.* to 17*s.* 6*d.* each. But in 1784, the price was thirty guineas, and he received a total of 3,000 guineas for a season.[2]

[1] Prothero (Lord Ernle): *English Farming*, chap. VIII. [2] *Ibid.*

But his success is best proven by the fact that he raised up not merely a breed of sheep or of cattle, but a host of imitators. Many in other parts set to work to improve other breeds of sheep, cattle and horses. The result before the end of the century is illustrated by the classical instance of Smithfield Market. The total weight of cattle and sheep sold there in 1732 was 42,000,000 lb., but in 1794 it had reached 75,000,000 lb. This is an increase of 75 per cent., "even if the increase in the average weight of sheep and cattle was only a quarter, where it was probably nearly 100 per cent."[1] Between 1710 and 1795, the average weight of beaves at Smithfield Market increased from 370 to 800 lb.; calves from 50 to 148 lb.; sheep from 28 to 60 lb.; and lambs from 16 to 50 lb.[2]

The principal breed of cattle in Lancashire was, as it had long been, the long-horned cattle named from the county. In the south and west of England red cattle of a fairly uniform type were bred. In Wales there were Pembrokes, Red Glamorgans, and Cornish cattle, while in Scotland the Highland cattle, the Ayrshires, and the Galloway and Angus breeds were already the favourites. In the east, the Holderness, a great animal more like a black horse than a cow, held the field. This breed was supposed to be at least partly of foreign origin, probably from the Netherlands. In the north and west, the brindled Staffords shared the honours with the Lancashire long horns.[3]

There were many varieties of sheep, chiefly distinguished by the length and quality of their wool. This diversity of wools made a great deal of interchange necessary among the manufacturing districts, and secured the position of the wool-dealer or middleman in that industry.[4] The Ryelands and Herefords yielded the wool for superfine broadcloths, the Sussex and Southdowns had a fine soft curly wool. In the north the principal breeds were the

[1] Eden: *State of the Poor*, Vol. I, p. 334, Note.
[2] Prothero. Cited above, chap. VIII.
[3] *Ibid.*
[4] Heaton: *Yorkshire Woollen and Worsted Industry*, pp. 118–23.

Cheviots, the Northumberland Muggs, and the Lancashire Silverdales. The long-woolled sheep were larger, polled white-faced and white-legged. Though no more than a quarter of the total number, they yielded one-third of the annual clip. The chief were the Cotswolds, then the Lincolns and Leicesters.[1]

The development of a demand for carriage horses led to the breeding of a class of horse midway between the "great horse" of the large farms, and the small wiry pack-horses so extensively used in the transport of goods about the middle of the century. Racing and hunting led to the importation of foreign breeds of strong, fast horses. There was a greater mixture amongst horses than amongst cattle.

The number of animals kept on the farms of Lancashire is shown by three sample farms of about a hundred acres each, one near Garstang, one at Ormskirk, and one at Altringham.[2] They have an average of 65 acres of grass and 35 acres of arable. Each has two or three draught cattle, probably horses, as oxen were not much used on small farms where the same animals had to be used for roads and fields. One had nine cows, and the others ten each. None kept any fatting beasts at the time, but one had three, and the other four young cattle each, and these would be fattened later on, or sold to graziers. One farm had ten, one twelve, and one thirty sheep. The average of farms in the north from 50 to 100 acres was, seven cows, one and a third fatting beasts, five young cattle, and from ten to 400 sheep. A farm in the north of the county, near Kabers, containing 180 acres, was two-thirds grass land. It had seven draught cattle, only thirteen cows, no fatting beasts, four young cattle, and ten sheep. It would seem that farms of this size were very much understocked, as the average for the north was only slightly higher than the one quoted. There were in general more cows kept on the smaller farms in proportion to the acreage, except on those of 300 to 400 acres, which were equal to the smaller ones. The farms

[1] Prothero (Lord Ernle): *English Farming*, chap. VIII.
[2] The rest of the detailed information in this chapter is from Young, *Northern Tour*, Vol. IV.

from 300 to 500 acres kept the largest number of fatting beasts, while the farms from 300 to 400 acres kept the largest number of young cattle.

The general situation is summarized by Young, in a series of statements. (1) The larger the farm the fewer the draught cattle; (2) the smaller the farm the greater the number of cows; (3) middling farms of from 300–500 acres have near three times the number of fatting beasts of the smaller ones and more than five times the larger ones; (4) farms from 300–400 acres keep most young cattle, and in general those under 400 acres, twice as many as those over 400 acres; (5) farms from 300–400 maintain more cattle than any other size, and those up to five hundred more than double the number of those over 500; (6) farms of 200–400 acres keep more than small farms, less draught cattle in the proportion of $5\frac{1}{2}$ to $3\frac{1}{3}$, and more than five times the number of the larger farms. This was probably due to the fact that most of the very large farms would have sheep as their principal stock.

CHAPTER II

ECONOMIC STRUCTURE OF FARMING ABOUT 1760

I. Land Tenure, Size of Farms, Enclosures

The changes described in the previous chapter imply a growth in the spirit of individualism. Men were less and less willing to remain subordinated to a system of farming that left but little room for the exercise of individual initiative, and the testing of new ideas. They were increasingly reluctant to have the rate of progress dictated by the most backward and unprogressive members of the community. Under the impulse of the commercial spirit, and the general intellectual activity of the time, the desire to introduce economies of time and labour, and to gain a greater quantity of food from the soil, conspired with the implications of the new methods to free the most conservative of industries to some extent from the bonds of custom. The result was a change in the economic structure of the agricultural community. That change was the effect, while still the accompaniment of the new technique. The new methods were largely impossible while each manor was bound into one rigid crop order, only to be changed by the consent of all; although it is true that in some open field districts marling had been introduced by common consent.[1] Elimination of waste was almost impossible while each farmer's land lay in widely separated strips scattered over a large area, and while pastures were common to the community.

The main features of this alteration in economic structure may be considered under four heads, viz., conditions of

[1] E.g., *Gentleman's Magazine*, Oct., 1752: "In the open field farms, of which some small ones still remain, there is no means of taking the benefit of clover and turnips, yet some of them have marled their grounds." Letter from a Norfolk farmer.

land tenure, size of farms, enclosures, and the marketing of produce. These in their turn led to social changes in the status of the farmers, and in the status and conditions of life of the labourers and their families. They may be considered in the order named remembering that they did not take place separately, but were interwoven both as to time and place. The tendency towards large farms, the gradual change from customary tenure and small freeholds to leasehold for definite periods, the decay of the system of rack-renting, and the development of enclosures went on together, assisting or retarding each other at different times and in different places. The change in marketing arrangements was conditioned by the great increase of produce, the specializing of different localities in stock, or corn, or other products, and the rapidly increasing demand from centres more and more distant from the farms. Agriculture shared in the remarkable development of the middleman which characterized the eighteenth century. The exceptional growth in the export of corn in itself necessitated some change in marketing methods. This growth of the middleman's organization is the intermediary phase between the small manufacturer who depended on the middleman to link him up with the consuming markets, and the large capitalistic manufacturer of modern times who sets up to a large extent his own sales organization.[1]

Land Tenure, Feudal Survivals.—The first considerable change from the customary tenure of the manor arose during the thirteenth and fourteenth centuries. There was an increase of population and a growth of trade, both of which meant an increased demand for agricultural produce. The result of this disturbance of the existing economic equilibrium was that in the newer settlements a money rent appeared, gradually replacing the feudal services. As both money and labour became more plentiful this transition to a rent based on money was even encouraged. Hired labour was more efficient than that of tenants reluctantly

[1] *Middlemen in English Business.* R. B. Westerfield, 1915. This work contains a full discussion of this development from 1660 to 1760.

leaving their own labours to render feudal service. On the other hand, it made for more successful farming if the tenant could compound his services for money and thus have all his time for his own land.[1] This process would be further assisted by the practice of gathering the demesne lands into compact areas and letting parts of them to tenant farmers, and by the gradual process of enclosing and cultivating the waste. Thus, through the centuries succeeding the period mentioned above, the transition to a money rent went on, but it was not complete till the agrarian revolution of the late eighteenth and early nineteenth centuries swept away practically all the survivals of feudal customary tenure.

Some light is cast on these survivals by advertisements of real property, taken from early issues of the *Manchester Mercury*, published from 1752 onwards. In an advertisement of some property in the Manor of Tottington, among other items "there is also a right of Turbary in about eight acres of land."[2] Turbary is also mentioned in connection with some demesne lands (52 acres) called Peel, where there is right of Turbary on Blackmoor, Astley Green, and Chat Moss. The same right applies to "16 tenements bordering on the said demesne lands."[3] Another offers for sale the "copyhold inheritance of two water corn-mills in the manor of Accrington Newhold in the Forest of Rossendale . . . together with the Suit, Socken, Mulcture and Toll thereto belonging."[4] At the time of the advertisement these mills were let for £120 per annum, "clear of the lord's rent, and all taxes, repairs, and deductions whatever," so that they were evidently an important property.

Dr. Percival, writing in 1776 of an enumeration of the people in Bolton, says that "Little Bolton is a suburb of Bolton, including the manor, and as far as the inhabitants are subject to suit and service." As late as 1795 we are told that "many farms are held on leases of three lives, on which a fine has been paid, and 'sometimes an addition

[1] Hasbach: *English Agricultural Labourer*, chap. I, sect. ii.
[2] *Manchester Mercury*, May 6, 1755. Right of Turbary is still met with in the Highlands of Scotland.
[3] *Ibid.*, Sept. 16, 1755.
[4] *Ibid.*, May 6, 1775.

of boon services,' which last system seems much on the decline."[1] Some of these practices lingered into the early nineteenth century. "About Coniston there are some remains of the old feudal tenure as the lord has there still his boon days, and is strict in requiring his tenants to perform suit and service."[2] Even in towns feudal rights lingered. It was not till 1758 that an act of Parliament was obtained whereby the tenants and inhabitants of Manchester were exempted from the ancient custom and duty of grinding their corn and grain at the school mills; but it was thereby enacted that the custom of grinding malt should be established and confirmed.[3]

Tithes.—The most notable of these survivals is the practice of collecting tithes in kind during the eighteenth century. Nor was this confined to Lancashire and the north generally. It occurred in some of the most advanced agricultural districts of the south. When landlords had almost universally found the money rent more profitable and economical, the church still clung to her ancient privilege of marking for her own every tenth shock of corn, and every tenth beast of the increase of the farm. Lord Ernle (Prothero) notes that between 1793 and 1815 tithes in Lancashire were in many places collected in kind.[4] As late as 1795 the tithe of corn was being taken in kind in the district round Lancaster, but the hay was compounded for at the rate of 5*s.* per acre.[5] A farmer pamphleteer in the 'sixties in another part of the country, in accounting for the poverty of the farmers in the neighbouring parish to his own, blames the tithes in kind. The farmers did not manure or keep stocks sufficient for the improvement of the land. He goes extensively into the question and shows how the tithe in kind eats up the surplus that would otherwise be available for improvement. He advocates that tithes in kind should be commuted for an annual payment, because, he says, "they are a continual discourage-

[1] Holt: *Survey of Lancs.* Section on Leases.
[2] Dickson and Stephenson: *Agriculture in Lancs,* 1815.
[3] *Cheetham Papers,* Vol. XLIV. *Byrom's Journal,* p. 515, footnote.
[4] Prothero: *English Farming Past and Present,* App. 6.
[5] Eden: *State of the Poor,* Vol. II, p. 302 (Parochial Repts.).

ment to increase of stock, manuring, etc." [1] Young makes a similar declaration :

" They are justly reckoned a very great burden on agriculture, and a most invidious tax on improvements ; for it is become a common custom for the rectors to take in kind only from those tenants who farm the best, and never to compound for more than a year at a time."

Again he says : " But at every place where I made inquiry, all ranks agreed, the clergy as well as others, that tythes were universally found a great discouragement to husbandry." [2]

A good idea of the prevalence of tithes in kind in the north generally is gained from Young's mention of them as he passes from district to district. In all he mentions them in twenty-five districts in the six northern counties. In ten of these the tithe is generally taken in kind, or gathered as the common phrase was. In six there is a mixture of gathered and compounded tithes, and in eight they are generally compounded. In one district, that of Hotton, west of Belford, there is much land tithe free. Nor is there any uniformity about the distribution of the places where compounding had gained a footing, they occur indifferently in districts near and remote from centres of population, though the bulk of the areas where they are compounded for are scattered through the eastern counties. In Lancashire they are gathered in kind round Burton in the extreme north ; round Kabers and Cockeram they are generally compounded for, while further south at Garstang they are both gathered and compounded. In the south at Ormskirk, and on the road from Warrington to Altringham, they are taken in kind. The price at which they are compounded varies for corn and hay. Wheat is compounded at from 4*s.* to 8*s.* 6*d.* per acre ; barley crops from 4*s.* to 5*s.*, and oats about 4*s.* per acre. Hay was not often more than 2*s.* per acre. In some instances the tithe was compounded for a set sum on the annual rent, as at 2*s.* in the pound round Danby. Around Swinton the tithe was 2*s.* per acre

[1] Letters from a Farmer to an M.P., 1766. Rylands Lib. Political Pamphlets, Vol. 109.

[2] Young : *Northern Tour*, II, 63 (near East Newton, Yorks); also IV, 485–7.

for all the arable land, and round Darlington 6*s.* per acre.[1]

There are continual references in the enclosure literature of the period to the opposition of the tithe owners, for whom the Act often meant abandoning the tithe in kind for some system of commutation. The opposition can be readily understood when it is remembered that the money tithe not only gave no advantage in years of plenty, but made no provision for a general increase of prices, and consequently for a fall in the value of money. Turning to more particular instances of the survival of tithes, we find that the land advertisements referred to above provide a number of illustrations in parts of southern Lancashire. A messuage and tenement of eight acres at Little Lever, in the parish of Bolton, a freehold inheritance, is stated to be "free from all manner of corn tithe."[2] There is offered for sale in the same year, a moiety of half the corn tithe of Astley, in the parish of Leigh, of the yearly value of £30 subject to a fee farm of £5 6*s.* 8*d.*[3] This would indicate that the tithe here had been commuted for a fixed annual payment. The freehold, fee simple of Peel, 52 acres of demesne lands, is half-corn-tithe free; and with the same estate is to be sold "all the tithe of hemp and flax, pig and goose" within Astley.[4] These instances supplement and confirm the more general statements of Young. We see that the change from the tithe in kind to the money payment was in progress, and it should also be noted that the tithes in some cases had been acquired from the clergy, and were bought and sold as investments. Numerous indications that the tithe in kind was looked on as a hindrance to improvement point to the conclusion that the change was part of the movement to free agriculture from old customs that prevented full advantage being taken of the new technique.[5]

[1] Young: *Northern Tour.* Information collected from the whole tour through the six northern counties.

[2] *Manchester Mercury,* Jan. 15, 1754. [3] *Ibid.,* March 5, 1754.

[4] *Ibid.,* Sept. 16, 1755.

[5] An interesting point in connection with tithes is found in the fact that in 1751 the Warden and Fellows of Manchester Collegiate Church claimed yearly 4*d.* from every weaver in lieu of tithes. Chetham Soc., Vol. 53, N.S., p. 170 (H. D. Crofton, *Hist. of Newton Chapelry*).

Concentration of Rights.—Coming to the system of land tenure proper, there is observable a distinct tendency to concentrate all the rights in any particular parcel of land in the hands of one owner. Accompanying this there is a distinct tightening of the conditions of tenancy. Little need be said concerning the freehold, and fee simple tenure. The acquisition of the fee simple is one method of concentrating the ownership of rights in the land. A leasehold or copyhold might be converted into freehold at so many years' purchase. This varied in the north from twenty-eight to forty-seven years, and the general average of the north was thirty-three and a half years. In Lancashire, the value of the land round Altringham was thirty years' purchase, while in the other districts noted by Young it was thirty-five years' purchase.[1] An interesting instance of this conversion occurs in connection with Melbourne Hall, Derbyshire, the birthplace of Lord Melbourne, and the ancestral home of the family. It was acquired in 1628 by Sir John Coke on a lease of three lives, and in 1710 by arrangement with the then bishop (it was an old rectory house), confirmed by Act of Parliament, the lease was turned into freehold.[2] The main forms of rental were the copyhold, the leasehold for lives, the leasehold for a definite period, usually from seven to twenty-one years, and the rack-rent or annual lease.

Copyhold.—The publication in 1763 of an edition of Coke's *Complete Copyholder* is evidence of the extent to which this system still prevailed. The distinctive feature of this tenure for the present purpose was the generally accepted customary right of inheritance on the payment of a fine, or on renewal if the copyhold was for lives. Early in the century it was realized that this tenure presented an obstacle to the consolidation of lands and might be a hindrance to their easy transfer. Edward Laurence advises "leniency in heriots, as too great strictness discourages the buying and selling of these lands."[3] At the same time he is an

[1] Young: *Northern Tour*, Vol. IV, Letter on "Value of Land."
[2] Dunckley: *Lord Melbourne*, p. 2 (Prime Ministers Series).
[3] *Duty of a Steward*, 1726, p. 59.

advocate of changing the copyhold to leasehold at every opportunity.

"I would advise all noblemen and gentlemen whose tenants hold land by copy of court roll for three lives not to let them renew unless they will agree to deliver up their copy in order to 'alter the tenure' by converting it into leasehold for lives."

The reason he assigns is to prevent the widow of the last life holding for her lifetime by her "Free-Bench" as it is called, "which is the fourth life, not covenanted for in the copy, but only pretended to by custom."[1] The advice, however, was much more far-reaching.

"The change from copyhold to leasehold turned the landlord into the absolute owner, with a legal right to dispose of the land as he pleased, instead of sharing ownership with tenants having a heritable right."[2]

No doubt Edward Laurence had this possibility also in mind. Certainly he was aiming at a greater control of the land by the landlord, and a reduction of that sharing of ownership with tenants having heritable rights. During our period this form of tenure was coming to be regarded also as an obstacle to improvement.[3]

A writer in 1751 recounts some of the disadvantages of the copyholder. He says that they suffer from the extravagant fees of estate stewards, and also that the stewards take advantage of "the privy knowledge of private affairs" gained at the renewal of the copyhold. He thinks that estates would rise five or ten years' purchase in value if the copyhold were abolished. It would encourage planting if the landholder did not have to give a present, and get permission to cut timber, even for sale to the royal navy. Another advantage of the abolition would be the increase in the number of freeholders having the parliamentary franchise.[4] This writer evidently did not contemplate a change to leasehold as the means of abolition.

But in spite of its disadvantages, copyhold was still

[1] *Duty of a Steward*, 1726, p. 60.
[2] Ashley: *Economic Organization*, Lecture VI.
[3] Hasbach: *Eng. Agricultural Labourer*, chap. II, sect. i.
[4] *Gentleman's Magazine*, January, 1751.

strongly entrenched on the eve of the Industrial Revolution, especially in the north. About two-thirds of Cumberland was of this type.[1] It still obtained largely in Lancashire. About a third of the parcels of land advertised in the *Manchester Mercury* in the period investigated were held on the copyhold tenure. Besides these parcels of land scattered over various parts of the county, more particular information shows that the land in the Rochdale district was held largely on copyhold during our period and after.[2] The general rent paid for this copyhold land was 4*d.* per acre. In 1745, Robert Entwistle, one of the tenants of the Lord of the Manor, holds fifteen parcels of land amounting in all to a little over fifty acres, Lancashire measure. In 1761, a piece of land called Copy, and amounting to 26 acres 3 roods copyhold measure, was enclosed. The prevalence of these small parcels of copyhold land is partly due to the custom of making the parcels enclosed from the waste copyhold at the standard rate of 4*d.* an acre. This style of holding prevailed in Rochdale until well into the nineteenth century. An extract from a counsel's brief in 1830, shows that at that time in the Manor of Rochdale 4*d.* per acre was still being paid by enfranchized copyholders on the original grants of the seventeenth and early eighteenth centuries.

In some cases the share of ownership falling to the tenant went farther than a right of inheritance to the soil as farm land. In the Manor of Macclesfield the copyholder by the custom of the Manor was entitled to the timber, mines and slate quarries.[3] Where such a custom as this prevailed the disadvantages of the copyhold would be somewhat mitigated. Another advertisement, in the same paper, of a tenement in fee, chargeable with a yearly rent to the Lord of the Manor, says that a delf of coal is included.[4] It is also worthy of note, that such property as the water-

[1] Hasbach: cited above. Chap. II, sect. i.

[2] For all the information about Rochdale, the writer is indebted to the courtesy of Mr. A. P. Wadsworth, of the *Manchester Guardian* staff, and a native of Rochdale, who gave access to his unpublished material.

[3] *Manchester Mercury*, Sept. 19, 1752.

[4] *Ibid.*, Nov. 7, 1752.

mills referred to above were held on copyhold as well as land itself. The practice of subletting seems to have been very common. This was the case not only with the water-mills, but also with the farms advertised in the Manor of Macclesfield, in the county of Chester. The fifteen holdings of Robert Entwistle in Rochdale were sublet to at least six tenants.

Leases for Lives.—That policy of altering copyhold to leasehold, with its vital influence on the ownership of the land, advised by Laurence in 1726, was extensively followed throughout England during the second quarter of the century; although in certain districts like Rochdale and the county of Cumberland, copyhold remained strongly settled in the economic system even into the nineteenth century. Leases for lives were the first step in alteration of the land-holding. They placed the absolute ownership of the land in the hands of the landlord, but the tenants retained the right of inheritance for the duration of the lives specifically mentioned in the lease. In the advertisements in the *Manchester Mercury*, extending from the foundation of the journal in 1752 till the end of 1755, when the custom of referring prospective clients to agents for particulars arose, the parcels of land regarding which the lease is mentioned may be roughly divided in the proportion of two to one, between leases for lives and for terms of years. In many cases, the kind of lease is mentioned, but only the annual value, from which one would infer that they were mostly on either leases for a term of years or on tenancy at will. It may, however, be concluded that leasehold lands were fairly equally divided between leases for a term of years, and those for lives. The latter would tend to be more numerous in rural districts and the former in the towns. For example, only one of all the properties advertised in Manchester itself is concerned with leases of dwelling-houses on three lives, though in that case the lives are all young. The prevalence of this custom during the later seventeenth and the first three-quarters of the eighteenth centuries is attested by the deeds and charters of Agecroft Hall, near Manchester. They are leases for lands in Pendle-

ton, Pendlebury, Prestwich, etc., covering the period from 1631 to 1787, and are "chiefly for lives."[1] But this system had the disadvantage of uncertainty of tenure, especially from the landlord's point of view, and in the case of long lives was an obstacle to advancing the rent as the value of the land rose. There was also the drawback that in the later years of the tenancy, the tenants would tend to let the land run out, and when the lease fell in, it would be in poor condition for their successors.[2]

Leases for Years.—Hence we find the tenancy being changed for a definite term, varying from seven to twenty-one years.[3] One instance occurs in Pendleton of a lease for three lives, and twenty-one years thereafter, thus combining the two systems.[4] Two cases occur in Rochdale in 1741, of land let for the term of eleven years; one is Little Howarth, 9 acres, and the other Newhey, 25 acres. Both are let to woollen weavers, and contain covenants restricting the tenants' freedom of cultivation.[5] A lease of nineteen years is also mentioned in an advertisement,[6] and there is one case of a sale of a chief rent on some lands in Wigan that are let on a lease of 999 years. In the latter case, fifteen years had expired, so the lease had been granted in 1740, on the threshold of the period under consideration.[7] One of the earliest advertisements illustrates the transition. "To be let for a term of lives or years, a number of choice farms, from £150 to £5, or under if required. . . ." These lands were in the lordships of Reading and Gt. Harwood, in the triangle between Burnley, Clitheroe, and Blackburn.[8]

A point in connection with church and college lands remains to be noted. A writer in 1739, fellow of a college

[1] *Lancs. and Ches. Ant. Soc.*, Vol. IV, p. 214.
[2] Holt: *Survey of Lanc. Agriculture*, 1795. "Spirit of Improvement," p. 81.
[3] *Gentleman's Magazine*, Nov., 1752. There are some leases of twenty-one years occurring in Norfolk.
[4] *Manchester Mercury*, August 28, 1753.
[5] A. P. Wadsworth: Manuscript material.
[6] *Manchester Mercury*, April 9, 1754.
[7] *Ibid.*, Sept. 16, 1755.
[8] *Ibid.*, Oct. 23, 1753.

in Cambridge, explains that the custom had grown up of renewing the leases of years or lives automatically. This was done by adding a life to the lease at every death, or adding seven years as each period of seven years expired, so that the leases always had at least two lives or fourteen years to run. But fines were exacted for these renewals, thus raising the actual though not the nominal rent;[1] and of course being arbitrary they tended to introduce an element of uncertainty into the tenure. Some slight corroboration of this is found in the wording of an advertisement of a "messuage, stable and smithy in Prescot, lease hold for years renewable from the lessee of King's College, Cambridge, under a small reserved rent."[2]

Rack-rents.—It remains only to mention the other main system of leasing land, that of tenancy at will or rack-renting. The disadvantage of this is again the uncertainty of both rent and tenure. The landlord could arbitrarily raise the rent, or terminate the lease; with the natural result that the tenants took as much out of the land as they could, and anything in the nature of husbanding the resources of the soil was unknown. This practice resulted in turn in the landlord raising the rent to the highest point at which tenants could be found, and so on in a vicious circle until the land would be utterly impoverished. In fact, this impoverishing of the soil was the inevitable result of any system that rendered the actual term of tenancy uncertain, or placed the amount of the rent from year to year at the arbitrary disposal of the landlord. It was the defect that lay at the root of leases for lives, as well as the rack-rents, and in the case of the church and college lands, mentioned above, the writer says that the arbitrary fine exacted for renewals, put the tenants "in as bad a position often as the rack-rent tenants, of whom there were few on such lands." It has not been possible to determine to what extent rack-rents obtained in Lancashire, but several messuages, with a gross yearly value of £141, in the Manor of Tottington, are frankly advertised

[1] Rylands Library Pamphlet 7035. T.5.E. (1739).
[2] *Manchester Mercury*, Nov. 13, 1753.

as being all let upon rack-rents.[1] The practice would seem to have been very common in at least some parts of the county. Edward Laurence disapproves of rack-rents and advocates leases of fifteen or twenty-one years, with proper covenants.[2]

Covenants.—Not only did the system of leases tend increasingly toward definite periods of time, but leases during this period contained covenants, or conditions restricting the freedom of the tenant in cultivation. Their main object was to ensure that the land would at the end of the lease be left in good condition for the new tenant. Edward Laurence in 1726 details the covenants which prevailed on the estates of the Duke of K— in the county of H—.[3] They are twenty-two in number, and are mostly concerned with the duties of the tenant. Tenants are forbidden to pare and burn land, or to sow hemp, rape, flax, woad, madder, etc., and potatoes or hops were only to be sown for private use. They are not allowed to convert pasture to tillage, except where the growth of moss renders it necessary, and they are to spend all hay and straw on the premises. These restrictions, designed to preserve the fertility of the land and the proportion of grass and arable, are supported by laying down the rotation of crops, a four course system of fallow, corn (wheat, rye or barley), beans or peas, and barley or oats. Another set of restrictions which refers to keeping rabbits, greyhounds, guns, the snaring of game, and the paying of the mole-catcher, as well as a prohibition of subletting, evidently has the same object in view. The tenant agrees to keep all buildings, byroads and hedges in good repair, and scour all ditches; to serve all parish offices and perform all services laid on the land and to pay all taxes, except the land tax. These are the main provisions and are enforced by penalties which are severe enough to deter any tenant from infringing them.[4]

Nearly seventy years later, Holt describes the usual

[1] *Manchester Mercury*, May 6, 1755.
[2] *Duty of a Steward*, p. 150 ff.
[3] *Ibid.*, p. 150 ff.
[4] *Ibid.* See App: II, *infra*.

covenants prevailing in Lancashire.[1] In his description, the landlord is to repair the buildings and the tenant to cart the materials. Another difference is that the tenant is restricted, not to keep pasture intact, but to maintain the proportion of the farm that may be under the plough at one time : and instead of a prescribed rotation, he is limited to the number of crops that may be taken from one breaking of the land. He is restrained from selling off his stock till the close of his last year, and is to receive three-quarters of the wheat that is growing when he gives up possession. It will thus be seen that throughout the greater part of the century the usual covenants remained practically the same, except for more freedom in the choice of a crop for any one year, and the change of responsibility for repairs.[2] In the leases of 1741, referred to above, some simple covenants are inserted. In one case the farmer is not to plough the meadow ground, and is not to set potatoes except for his own use. He is to do minor repairs, and to plant six trees yearly. In the other, the only covenant seems to have been that the tenant was not to plough more than four acres of pasture in the last three years.[3]

At the outset we noted that there was a distinct tendency to concentrate rights of ownership in each parcel of land in the hands of one owner, and a distinct tightening of the conditions of tenancy by means of covenants. We have also seen that there was a growing desire to abolish indefinite tenancies such as leases for lives in favour of a definite term of years, or even for the annual lease. The fundamental reason for this is to be found in the desire of the landowner to secure for himself the growing rental value of the land ; a growth due in part to the increasing wealth and population of the country, and in part to the improvements which made the land more productive.

This explains the increasing impatience of the owners with the heritable copyholds, and with leases for lives. It

[1] Holt : *Survey of the Agriculture of Lancs.*

[2] See Curtler, *Hist. of Agriculture*, for details of covenant in Norfolk leases about the end of the century. In greater detail, they are substantially as Holt describes for Lancs.

[3] A. P. Wadsworth : Manuscript material.

also explains the prevalence of rack-rents levied on the actual cultivator, and the periodical fines characteristic of longer leases such as those of college lands. But the new kind of tenancy brought evils in the form of impoverished soils and depreciated permanent equipment. To meet these the covenants in leases were made more stringent. England did not, however, become pre-eminently the land of the successful tenant farmer by means of changes in land tenure, nor yet by means of strict covenants, so much as by the fine relations established in the eighteenth and nineteenth centuries between the resident landlord and his cultivating tenants.

Size of Farms.—One of the outstanding features of the eighteenth century with regard to agriculture was the tendency to increase the size of farms. A recent writer has analysed the return from 500 parishes in England,[1] and from these he concludes that there was a remarkable consolidation of estates, and a shrinking in the number of small ones between the early seventeenth century and 1785. According to a table he gives, selected owners made their greatest acquisitions between 1720 and 1785.[2] His conclusion is supported by a very general consensus of opinion among contemporaries that the closing years of the seventeenth and the first half of the eighteenth century were fatal to the small owner. The frequency with which engrossing of farms is discussed during the eighteenth century is evidence that the movement was widespread. The classical illustration of this tendency is the advice of Laurence to stewards. "A steward should as much as in him lieth and without oppression, endeavour to lay all the small farms, let to poor indigent people, to great ones."[3] This is to be done when leases fall into hand by death or by expiry of the term. In another place, he assigns as a reason for this, that tenants who in the north rent small farms have, generally speaking, but little substance wherewith to make any expensive improvements.[4] Laurence also encourages the buying out of freeholders

[1] Johnson: Disappearance of the Small Landowner. Lecture 7.
[2] *Ibid.*, Table v.
[3] *Duty of a Steward*, p. 35.
[4] *Ibid.*, p. 3.

wherever they can be persuaded to sell,[1] and by the whole tone of his work, gives expression to the prevailing desire to increase the size of holdings. A writer in the *Gentleman's Magazine*, living in Suffolk, says :

" When I first came to settle in this country, the parish I resided in was divided into twenty-eight farms, exclusive of those who occupied land in it and lived in another ; and then the people in general lived well, and at peace with each other ; now twelve of these farms are added to the other sixteen, disputes daily arise and poverty has made large strides in the parish." [2]

Another writer speaks in 1755 of the very large farms which are common in Norfolk, some as large as 3,000 acres.[3] Evidence might easily be multiplied to show the extent of this tendency, which attracted such great attention, and, for the most part, reprobation from the writers of the day.

But it would be a mistake to suppose that the whole kingdom was monopolized by great farms. No doubt the presence of a few in any district gave rise to numerous complaints. Arthur Young, in 1770, gives particulars of

" 250 farms, of all sorts and sizes, on all kinds of soil, and under every variation of culture and stock, spread over a line of country, more than 5,200 miles in extent, which undoubtedly present an epitome of all that part of the country through which the tour was made." [4]

One queries the distance, as in his own summary in another place, only about 1,100 miles can be traced ; but the farms he mentions certainly present a comprehensive picture, and justify certain conclusions. The average total acreage is 287, 148 of grass, and 149 of arable land, with an average rental of £142 12*s.* 6*d.* His conclusion is that the

" greatest part of the kingdom is divided into moderate farms ; for these under 300 acres (including the most waste and barren soils) cannot be thought large in any county. The tour extends twice through the large one of Northumberland,

[1] *Duty of a Steward*, pp. 36–7.
[2] *Gentleman's Magazine*, Oct., 1752.
[3] *Museum Rusticum*. April, 1765. Letter from Bradfield, on reasons for failures in farming.
[4] *Northern Tour*, IV, Letter 36.

which contains few farms that are small, and some so great as 6,000 acres, several of which class are included in the average; the generality, therefore, must be of very moderate size for the medium of the whole to be no greater than 287 acres. This is a fact which contradicts very strongly the popular ideas current at present that the whole kingdom is monopolized by great farms." [1]

He confirms his conclusion that the average is small by the rental figures, saying that £142 is nowhere counted a large farm, even by those who complain of engrossing.

Into this general picture, it is easy to fit the conditions of Lancashire. That county was one of the strongholds of the small farmer, and the growth of manufacturing only confirmed this characteristic. The size of the farms enumerated by Young in Lancashire vary from 35 to 400 acres, but only two reach or exceed 200 acres. The district containing the largest is that around Garstang, where the figures are 110, 160, and 200 respectively. The 400-acre farm is in the Ormskirk district, but the others given in that district are small. The average acreage of farms enumerated round Lancaster and Kabers is 60, round Garstang 160, round Bowles 65, round Ormskirk the average is 164, and between Warrington and Altringham 110.[2] To give the rental figures would only confirm the impression given by the acreage, although they would tend to bring out the fact that there were many smaller farms than the average would indicate at first sight. For instance, between Lancaster and Garstang, farms of £10 a year are frequently mentioned, and between Wigan and Warrington, £15 is mentioned as a minimum. Round Halsall, near Ormskirk, farms are from £5 to £100 per annum, but chiefly round £40. In one of the parishes in this district, the text does not make clear which, Young says there are 2,000 acres, divided into 100 farms, making an average of 20 acres. And in his recapitulation, no farm of more than £200 a year is mentioned in Lancashire.[3] Further evidence is given in 1795 by Aiken:

[1] *Northern Tour*, Vol. IV, Letter 36.
[2] *Ibid.*, Vol. III, Letter 18.
[3] *Ibid.*, Vol. IV, pp. 405–6.

"Land has become more minutely divided since the introduction of manufactures . . . in most townships there is one farm, still distinguished by the name of 'The Old Hall,' or 'Manor House' (the former residence of the great proprietor of the district), which is of larger extent than any of the neighbouring farms; few of them, however, exceed 600 acres, and many do not reach 200. The more general size of farms is from 50 acres down to 20 acres, or even as much as will keep a horse or a cow."[1]

Enough has been said to show that in the alluvial districts the tendency to small farms was not much disturbed by the 'sixties of the eighteenth century. The tendency to small-holding is accentuated as we get more into the hill districts, especially those where manufacturing was being carried on under the domestic system. The advertisements from the *Manchester Mercury* cannot be considered as complete evidence, but they too point in the direction of quite small holdings.[2] It will be remembered that the two leases of 1741 in Rochdale were for 9 and 25 acres respectively.[3] In 1745, as mentioned above, Robert Entwistle, of Foxholes, near Rochdale, was possessed among other property of fifteen holdings of copyhold land, let to at least six different tenants.[3] In Brandwood, a district on the edge of the moors, near Rochdale, about this period, we find that the small-holder is in the ascendant. Seventeen "owners and occupiers" have holdings of acreage varying from one and a fraction to 108 acres, the majority being from 2 to 15 acres. Holdings of "occupiers only" range from 1 acre up to 50, the majority being under 25 acres. The following table of holdings in Rochdale parish is unfortunately not accurately dated, but applies, the writer is assured, to the years near the middle of the eighteenth century.[3]

[1] Aikin: *Hist. of Manchester*, 1795, p. 23.

[2] They advertise holdings of 8, 13, 13, 8, 15, 110, 52 (16 tenements comprising 41 acres), 12, 15, 3, 169, 10, 20, 18 and 9 acres. There is also an advertisement of several farms from £5 to £150 per annum. These are at various dates.

[3] This information is from the manuscript material of A. P. Wadsworth, Esq., of the *Manchester Guardian* staff, the results of whose investigations were placed at my disposal.

Under 5 acres	. . . .	67 holders.
5–10 acres	. . . .	98 ,,
10–15 ,,	. . . .	57 ,,
15–20 ,,	. . . .	34 ,,
20–30 ,,	. . . .	23 ,,
30–40 ,,	. . . .	13 ,,
40–50 ,,	. . . .	2 ,,
50–60 ,,	. . . .	3 ,,
60–70 ,,	. . . .	0 ,,
70–80 ,,	. . . .	1 ,,

Out of 298 holders all but six have holdings of less than 40 acres, while of the 292, 222 have not more than 15 acres each. But even in Rochdale there is a farm, Gristlehurst Hall, advertised for sale, which contains 127 acres of meadow, pasture, and arable, and 42 acres of wooded ground.[1]

Although more will be said later, it will be well to note here the intimate connection between the domestic system of industry, and the small agricultural holdings. The influence of manufactures on the size of holdings of land is already being felt in certain quarters in 1726. There is the example of Sir Walter Calverly, near Leeds, in Yorkshire,

> " who by laying out considerable sums in building fulling mills on the river, has tempted the cloth makers to come and settle there with their families, insomuch that his estate, and lands round about, quickly advanced and doubled the old rent." [2]

It will be seen later that the restrictions of the municipal corporations in the seventeenth and early eighteenth centuries, and the increased cost of living in the towns, tended to drive the independent weavers and cloth-workers into the country. This was especially the case with the attempts to regulate the woollen industry of Yorkshire.[3] The uncertainty of being able to weave or spin full time, because of the imperfect arrangements for co-ordinating the various parts of the manufacture, was an incentive to have a few acres of land that could be worked in slack time, and

[1] *Manchester Mercury*, January 16, 1753.
[2] *Duty of a Steward*, pp. 35–6.
[3] See Heaton: *Yorkshire Woollen and Worsted Industries* (1920), pp. 224–34, 291–2.

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provide part of the subsistence for the family. There is abundant evidence of this connection between small holdings of agricultural land and the domestic industry during the period under discussion. Defoe's description of the Halifax woollen area is too well known to need repetition here.[1] The leases of 9 and 25 acres of land previously quoted were both to weavers near Rochdale.[2] Bishop Pococke in 1750 tells of encountering a boy at New Church, Rossendale, who told him that "his father paid £6 a year, kept a horse, 3 cows and 40 sheep; that his father and he wove woollen, both for their clothing and to sell," which he mentions as an instance of their manner of living in these parts.[3] The advertisements in the *Manchester Mercury* of small holdings of land frequently mention that they are either fitted with buildings for some branch of the clothing trade, or are suitable for it. Perhaps the most typical is the one offering "a number of choice farms of from £150 to £5 . . . with buildings erected thereon suitable for any farmer, grazier, or trader;"[4] an obvious attempt to meet the needs of the farmer-manufacturer.

Nor was it only in the manufacturing districts that the small-holder was able to resist the encroachments of the great farms. The Vale of Pickering as late as 1788 was largely in the hands of small farmers.

> "The major part of the lands of the district are the property and in general are in the occupation of the yeomanry. Pickering township contains about 300 freeholders, principally occupying their own small estates. At present no man is owner of £300 a year of landed estate, lying within the township, though its rental, if rack-rented, would be not less than six or seven thousand pounds."[5]

That small holding was a success even where manufacturing was not present is proven by the fact that in this district rents are higher than in Norfolk, and the highest rents are for small parcels. These let at from 30s. to 40s. an

[1] Defoe: *Tour*, Vol. III, pp. 135–6 (Ed. 1762), III, 144–6 (Ed. 1769).
[2] *Vide supra*, p. 45, Note 5.
[3] Pococke: *Camden Soc.*, Vol. I, pp. 203–4.
[4] Oct. 23, 1753.
[5] Marshall: *Yorkshire*, 1788, p. 20.

acre while the larger holdings seldom bring more than 20*s.*[1] Such, however, are exceptions to, rather than contradictions of, the general tendency to increase the size of farms.

Enclosures.—The enclosure movement is the crown and completion of the changes in the economic structure of the industry. At the same time it is the channel through which the new commercial and individualistic spirit found its full expression. Enclosures meant the abandonment of the wasteful methods of the open field system for a system in which economy of management and the new technical progress could reap their full reward. When farming became primarily a source of profit for the community, open fields were doomed and enclosures were already on the horizon. They mark the completion of the transition from the manorial organization where the lord of the manor was the head, social as well as economic, of a largely self-sufficing community, to the capitalistic organization where the landlord is the apex of an industry organized for profit.

We have seen that steps in this direction were being taken by the gradual concentration of the rights of ownership, and by the tendency to a larger unit of production in the larger farm. Enclosures were the logical outcome. The earlier enclosure movements[2] were the foreshadowings of what took place in the eighteenth and nineteenth centuries on a much larger scale. They were attempts to override or extinguish the scattered rights of ownership which prevented the use of the land for what the landlords considered the most profitable purposes. The opposition to them was from those who suffered, and their sympathizers, or from those who opposed the social changes and shifting of population which enclosures brought in their train. Similarly with the larger movement, except that it came when there was sufficient impetus in the times to overbear the opposi-

[1] Marshall: *Yorkshire*, 1788, p. 20.

[2] Curtler: *Enclosures*, p. 148. In the Tudor enclosures only four counties enclosed as much as 8·9 per cent. of their land. In the eighteenth and nineteenth centuries some counties reached 25 and 51 per cent. From 1455 to 1637 2·1 per cent. of the total area of England was enclosed. In the eighteenth and nineteenth centuries nearly 20 per cent. was enclosed.

tion.[1] Advocates of enclosures could see little but the great economic benefits. Opponents were intent upon the social suffering and injustices which enclosures entailed, more, it must be admitted, from the methods used than from any inherent evil in the principle of the movement. This explains the sharp division of opinion which has characterized the discussion of enclosures down to our own day, when the question has ceased to have much more than an academic interest.

That the impulse toward enclosures was economic is proven by the close correspondence between the number of enclosure acts and the price of wheat at different periods of the eighteenth century. On the purely economic side, enclosures were an undoubted benefit. They made it possible for progressive farmers to eliminate the waste of time and of land that was a feature of the common fields. They made experiments in new methods possible, and allowed land to be used for the purposes to which it was best suited. The result was a much larger net produce of the agricultural land, for sale to the urban and manufacturing portion of the population or for export. On the other hand, they had the effect of dislocating the rural social structure. They tended to the disappearance of the cottar class, who had gained part of their subsistence from their small holding, and of the squatters who had gained part of a livelihood from the waste; and they deprived both of old rights of common,[2] by which they had been able to keep animals or poultry to increase their means of sustenance. They were thus an important factor in reducing the number of small holders of farms.[3] These, like the cottars, were unable to bear their share of the enclosure expenses, and the new hedging and ditching required by the new arrangements; and so were forced to sell their holdings. They

[1] Whereas the earlier movement was opposed and partly arrested by the legislature, the later movement received parliamentary encouragement. See Curtler's *Enclosures*, p. 146.

[2] See below, p. 111 ff., for a fuller description of the effect of these rights.

[3] Prof. H. L. Gray, after a detailed examination of Oxfordshire records, concludes that there is no necessary connection between enclosures and the disappearance of yeomen.—*Quarterly Journal of Economics*, Vol. XXIV, pp. 293–326.

either became tenant farmers, or went into trade, or more commonly sank to the level of landless labourers. There is an extensive modern literature on this whole question, so that it is not necessary for the present purpose to discuss the merits and demerits of the movement further.[1]

Gonner describes the various methods by which enclosure was brought about. These were (1) the extinction of common in the ordinary process of law, by uniting the possession of the various rights, by severing the rights of common from the tenement to which they were attached, by release by the owner of common rights, by disuse, by the destruction of the produce for which the right was held, etc.; (2) the withdrawal from common by sufferance; (3) approvement, that is, the right of the lord to make any use he wished of the land so long as the common rights were preserved; (4) agreement, which varied from a genuine agreement of all holders, to those forced by pressure, even to the extent of suits in the Court of Chancery; this method was common in the seventeenth, and to some extent in the eighteenth century; (5) Parliamentary enclosures by private Acts, and later under general enclosure Acts.[2]

This last was not a novel idea, for a general enclosure Act had been advocated as early as 1681.[3] But enclosure by private Act begins systematically with the reign of Queen Anne. There were several in the reign of George I, and during the reign of George II, they become a considerable number each year. The period from Queen Anne to 1801 sees the growth of the private Acts into a highly developed system. From 1801 to 1845 the private Acts were passed under the provisions of the General Enclosure Act of 1801, and after 1845 enclosures were carried out by permanent public bodies set up under the Act of that year.[4] In our period we are concerned with the stage at which the

[1] Gonner: *Common Fields and Enclosures.* He deals with the question largely from the purely economic side, and is little impressed with its social defects. Slater, Johnson, Hasbach, are examples of writers who are mostly concerned with the social side. Curtler: *Enclosures and the Redistribution of our Land.*

[2] Gonner, p. 43 *et seq.*

[3] By John Houghton, the well-known agricultural writer.

[4] Gonner, p. 43 *et seq.*

growth of the private Act had arrived about the middle of the eighteenth century.

Three main waves or periods of enclosure may be distinguished in the course of the eighteenth century. It is possible that so far as enclosure by agreement proceeded it would follow the main outlines of the wages of enclosure by private Acts. The first period is the one from the accession of Anne to the death of George II in 1760. During this period one writer states there were 200 Acts, 130 for the enclosure of open fields and 70 for the enclosure of waste and some common.[1] Another, writing somewhat later, enumerates 208 Acts in the same period, 152 for common and waste, and 56 for the enclosure of waste only.[2] Hasbach, again, says there were 244 Acts, 2 in the reign of Anne, 16 in the reign of George I, and 226 under George II.[3] The last is the most interesting for the present purpose, as the figures show the steady rise in the number of Acts, nearly thirteen times as many in the thirty-three years of the last reign, as in the twenty-seven years of the two previous ones.

In 1760 the country was on the eve of a great wave of enclosure which lasted for the next two decades. It should be noted that, like many other movements of the later eighteenth century, this wave of enclosures did not rise out of a period of stagnation, but was rather the result of the preparation of the previous half-century. There then occurred a decade of comparative quiet in the movement, followed by another great wave of enclosures, beginning in 1790 and continuing until about 1810. It was when this wave was in full progress that the first General Enclosure Act was passed in 1801. The magnitude of the movement may be seen by the fact that in the last forty years of the century there were 2,000 Enclosure Acts passed, as compared with 208 enumerated by the same writer passed between 1700 and 1760.[4] The acreage shows about the same proportion, being 312,363 acres in the first period

[1] Prothero: *Eng. Farming, Past and Present.*
[2] Johnson: *Disappearance of the Small Landowner.*
[3] *Eng. Agricultural Labourer*, chap. I.
[4] Johnson: *Disappearance of the Small Landowner.*

and 3,180,871 between 1760 and 1800. As compared with previous centuries, there was as much land enclosed in the first sixty years of the eighteenth century as in two centuries before.[1] It must be remembered, however, that there was a good deal of land being enclosed during these centuries by other methods such as those mentioned above, and this proportion, therefore, does not present an accurate account of the actual enclosures. The inaccuracy is not so great as might at first appear, because the eighteenth century also saw a great deal of land enclosed without resort to Parliament. Lord Ernle names seventeen counties where enclosure was nearly complete by 1790, and largely without the intervention of the House of Commons.[2] But it is impossible to ascertain now what proportion the land enclosed other than by Acts of Parliament in the eighteenth century bore to that so enclosed in the previous ones.

An outstanding feature to be noted in connection with the enclosures of the first sixty years of the century is the transition from the enclosure by agreement to that by legislative enactments. At first when legal sanction was felt to be necessary because of the opposition of some of the freeholders, resort was had to suits in the Court of Chancery ; and the decisions of that court fixed the division as a legal change. But this was slow and cumbersome, and in the reign of Anne there began the systematic resort to the Parliament. During the early part of the century many of the Acts are merely confirmatory, and some even have no commissioners appointed.[3] Gradually, however, the agreements became less frequent, and the Act with commissioners which had at first been the least usual, became the regular method. This was perhaps due to the tacit acknowledgment by Parliament that the consent of the owners of four-fifths of the land concerned was sufficient warrant for the passing of the Act. By 1760 the Act,

[1] Johnson, op. cit.
[2] *Eng. Farming*, chap. VII, Suffolk, Essex, Kent, Sussex, Somerset, Devon, Cornwall, Hereford, Monmouth, Shropshire, Stafford, Cheshire, Lancs., Westmorland, Cumberland, Northumberland and Durham.
[3] Gonner: *Common Land and Enclosures.*

where there was no complete agreement, had become the general rule.[1]

Side by side with this transition there grew up the practice of inserting in the bills provisions designed to safeguard the enclosures from some of the most common sources of injustice. An oath of impartiality was usually taken from the commissioners from about 1760; and there was a gradual growth of provision for publicity in the preliminary stages, which gave the opponents of the measure warning and opportunity to prepare their case for the Committee of the House. The provision for the roads was naturally one of the earliest safeguards to be placed in the bills.[1] The provision for the poor who would be dispossessed also became more general, but was not so well guarded, nor so carefully considered, as some other phases of the question.

Enclosure in Lancashire.—Lancashire presents an interesting problem in connection with enclosures. That county and Cheshire lay to the north-west of the great enclosure belt, which, narrow in the south-west, gradually broadened out as it passed across the Midlands to the north-eastern counties. Lancashire belongs to that group of seventeen counties mentioned above in which enclosure was practically completed without resort to Parliament. Lord Ernle also states that no Parliamentary Enclosures took place in Kent, Devon, Cornwall, or Lancashire. With regard to the latter county, he must surely mean that no Parliamentary Enclosures of open fields took place there, for Enclosure Acts for common and waste are too numerous to have escaped his attention.

There were altogether some forty Enclosure Acts passed in connection with waste and common in Lancashire during the eighteenth century. There were two in 1724, and one near Garstang in 1730. For the next twenty years there is no single Act relating to either Lancashire or Cheshire, though "at the same time multitudes were being passed for other parts." The writer responsible for the above statements says:

[1] Gonner: *Common Land and Enclosures.*

"It is not at all unlikely that during this interval as at other periods many enclosures were carried out by agreement. Where the commoners were all of full age, and competent to consent, and were few in number, a scheme could be carried out without going to Parliament."

The title of an Act in 1750 implies that the agreement was tried but was found incomplete without resort to the legislature. It is entitled "An Act for confirming articles of agreement, and dividing the commons and Waste Ground in the Manor of Culceth."

Between 1750 and 1762 six other Acts were passed, the places dealt with being Ellel near Lancaster, Loughton near Preston, Walton on the Hill, and Fazakerley, Lowton near Wigan, and Astley, and an Act in 1761 mentioned by Holt in 1795 for the enclosure of Worbrach Moor, which is missed by the writer in the Lancashire and Cheshire Antiquarian Society papers.[1]

But the presence of these Acts for common and waste makes the complete absence of Parliamentary enclosures of open fields all the more notable. It is difficult to find a satisfactory answer. No doubt several influences combined to produce the result. The first of these contributory causes is the fact that the bulk of the county was enclosed before the period of enclosure by Acts. Southern Lancashire was one of the most enclosed districts of England as early as the date of Leland's Itinerary in 1536–42;[2] Gonner has in his book given a table prepared from the Tour described in Ogilby's *Britannia* near the end of the seventeenth century. He deduces the percentage of enclosed land from the road maps. At that time only 12 per cent. of the land in Lancashire was unenclosed. This is borne out by the descriptions of Celia Fiennes in the last decade of the same century. According to her account, the seven long miles from Preston to Wigan was mostly through lanes. From Gascoyne to Lancaster was mostly through lanes, being enclosed country. From Blackstone Edge the view was of a fruitful valley full of enclosures, and from Rochdale to Manchester the grounds were all enclosed

[1] *Lancs. and Ches. Antiq. Soc.*, Vol. VI, pp. 112–26.
[2] *Common Land and Enclosures*, chap. II.

with quickset.[1] When the new technique of the eighteenth century arose, there would be such widespread illustrations of the benefits of enclosures under the new methods of culture in the old enclosed land, that it would be easier than in other parts to secure the consent of the owners to the change. That there were enclosures of common fields in Lancashire during the eighteenth century is proven by the following passage in Holt's Survey in 1795;

"There are but few open or common fields now remaining; the inconvenience attending which, when they were in that state, having caused great exertions to accomplish a division in order that every individual might cultivate his own lands according to his own method, and concentrate all lands of one property on one point."[2]

Another influence tending to make agreement possible in enclosing the common fields is noticed by a recent writer on Social Movements. He says:

"While in the Midlands arable land was being converted rapidly to pasture, the general effect of enclosure in the north and west was to extend the area of tillage and with it the means for constant employment."[3]

This quotation seems to point the way to at least a partial understanding of the lack of parliamentary enclosures in Lancashire. The great objection continually made to enclosures was that they made it more difficult for the labouring classes and small farmers to get a living, and thereby led to depopulation. In many parts of England enclosures tended to the increase of the size of holdings, and to the increase of pasturage. Where this was the case, even if there was no actual injustice in the agreements for division, there would be less work for the labouring class after the first hedging and ditching and road-making was over; and the consequence was either increased distress or fewer people in the district.

But it is not equally clear that it was an increase in the amount of land actually under tillage that prevented

[1] Slater, p. 255 ff.
[2] Holt: *General Survey of Agriculture in Lancashire*, p. 49.
[3] Dobbs: *Education and Social Movements*, 1700–1850, p. 64.

such objections in Lancashire. The great amount of early enclosure in the county has been mentioned; and not only would the force of example reduce the opposition to the later enclosures, but the comparatively small part of the common fields left would cause less disturbance of the social organism in any one district. The description given by Arthur Young of the conditions in Lancashire tends to show that grass land formed much the larger proportion of the farms he visited. Three farms quoted round Kabers and Cockeram as typical, total 177 acres, of which only 59 acres was arable. In the Garstang district, three farms total 470 acres, of which 180 only are arable. Round Bowles, between Warrington and Prescot, of 193 acres only 62 are arable. In the Ormskirk district, and on the road from Warrington to Altringham the proportion is about the same.[1] Gonner is perhaps nearer the specific cause when he speaks of the suitability of Lancashire for pasturage.[2] If pasturage was the most profitable use that could be made of the land, its division and enclosure would make less disturbance in the local arrangements than if the whole system of cultivation were undergoing alteration.

A third cause which may have been operative is mentioned by both Slater and Gonner, viz., the possibility of the land having been held on some system whereby common rights gained no conspicuous position. Gonner hazards the conjecture that the land may have been brought under cultivation from the wild state at a late period, either by direct enclosure, or by a system free from common rights.[3] Slater, on the rather slender evidence of the quotation made above from Holt,[4] concludes that it would appear from this

"that the open fields of Lancashire, though unenclosed, intermixed, and subject to some common rule of cultivation, were not subject to common rights. Anyone, therefore, who by exchange or by buying and selling could get his lands together

[1] Young: *Northern Tour*, III, Letter 18.
[2] Gonner: *Common Land and Enclosures*, p. 124.
[3] *Common Land and Enclosures*, p. 124. Cf. Curtler, *Enclosures*, p. 185, where he says, without proof, that Lancashire, like Cumberland and Westmorland, was influenced by the non-open field Celtic system.
[4] See *supra*, p. 49, Note 1.

in a convenient plot, might enclose without trespassing on his neighbours." [1]

Unfortunately for Slater's argument, the evidence as to the existence of common rights is too strong to be thrust aside. The Lees Field, for instance, near Oldham, remained an open or common field of pasturage until enclosed and laid out for separate ownership in 1841. This field so late as 1806–7 had nine proprietors, and was stinted for thirteen cows.[2] Further, it was not likely that common rights would exist over the common and waste, and not over the arable lands.

There is, however, some ground for Curtler's unsupported statement that Lancashire, like Cumberland and Westmorland, was influenced by the non-open field Celtic system.[3] This point is fully dealt with by Prof. Gray in *English Field Systems*.[4] The pertinent points of his description, so far as the present purpose is concerned, are the Celtic hamlet rather than the village type of settlement; the irregular character and disposition of the individual tenant's parcels, and the Celtic influence on the method of tillage.

A survey of the manor of Rochdale in 1626 showed that it consisted of 41,828 acres divided amongst twenty-four hamlets. There is in Lancashire and Cumberland no evidence of grouping of holdings under the two or three field system such as was found in the Midlands. The enclosures of Lancashire were from an early date quite small, as attested by the above-mentioned survey of Rochdale manor, showing three-quarters of the manor to be entirely in small closes; and by an account in 1616 of the rectories and parsonages of Blackbourne and Whaley, which shows that with one exception the townships lay in closes, often numerous.

Other evidence is that of tillage. The Celtic system involved a succession of spring crops followed by several years of fallow instead of the usual two or three crops

[1] *Eng. Peasants and the Enclosure of Common Fields*, p. 255.
[2] *Lancs. and Ches. Ant. Soc.*, Vol. XXXV, p. 43.
[3] Curtler: *Enclosures in the Eighteenth Century*, p. 185.
[4] *Harvard Historical Studies*, Vol. XX. See esp. chapters V, VI, VII.

and a fallow which characterized the English system. Young, towards the end of the eighteenth century, provides evidence that this system prevailed in some parts of the county, especially in the north, where one would expect the Celtic influence most strongly. Round Holme, he gives instances of fallow, from three to six grain crops, and then let it "lie to its own grass."[1] Near Garstang he gives an instance of three grain, and one bean crop, then "let it lie to its own grass." So that, after summarizing the evidence Gray says, "it seems permissible to join Lancashire with Cumberland and assign both counties to the region within which English agriculture was affected by Celtic custom."

Gonner's other conjecture, that much land was enclosed direct from the waste, also has evidence to support it. This was especially the case in the hill districts, for most of the open or common fields were in the alluvial plains, which would naturally be cultivated first.[2] Laurence as early as 1726 declares it to be the duty of a good steward to prevent gradual enclosure by yeomen, especially where the lord of the manor is the owner of the Great Tithe.[3]

The Courts Leet records provide numerous instances of men being presented for enclosing from the waste. At first, no doubt, they were compelled to throw the land into the waste again, but in some districts the custom grew up of exacting a fine, and making the land copyhold from the lord of the manor. This was the custom, for example, in Rochdale, and continued into the nineteenth century. In 1811 John Entwistle is presented for enclosing 150 acres from the waste; but this was for the purpose of exacting a fine, as there is no record of its being thrown open again. In deeds and wills the phrase "new taken in" land frequently occurs during the eighteenth century.[4] There

[1] *Northern Tour*, Vol. III, Letter 18. Cited above, p. 30 ff. This evidence is not presented by Prof. Gray.

[2] Aikin: *History of Manchester.*

[3] *Duty of a Steward.*

[4] Manuscript material. A. P. Wadsworth, Esq. A copy of the Court Leet Record, in the Barony of the Manor of Rochdale. In a deed of 1725 for a parcel called Spotland, the phrase "new taken in land" occurs, and in a will dated 1727, land is spoken of as "new taken in," improved of Shoreham Moor. The former parcel is 2 acres, property of a yeoman, and is on copyhold.

can be little doubt that this process of gradual enclosure from the waste went on during the sixteenth and seventeenth centuries, but was much accelerated in the eighteenth.[1]

Still another explanation of enclosure by agreement, rather than by Act in Lancashire, is the presence of manufactures in the county. This is a factor of which scarcely any notice is taken by modern writers on the subject. Gonner in his exhaustive work incidentally mentions that there was a distinct tendency to enclosures in the districts adjacent to London and the great manufacturing centres.[2] But he does not discuss the possible bearing of manufactures on the enclosure movement in Lancashire. This influence would have effect in two ways. There was a rapidly increasing manufacturing and commercial population, and much of this growth was in the towns. Lancashire increased 78 per cent. during the first half of the century, and was third after Middlesex and Surrey in density of population amongst the English counties. Liverpool increased tenfold from 1680 to 1760; Manchester five times from 1717 to 1773. These urban populations were creating a market near the farms for dairy produce, meats and vegetables.[3] Such a demand made the use of small areas for pasture and market gardening a profitable venture; so that there would not be the same tendency for enclosure to result in larger farms.[4] Consequently, anything that promised to result in increased produce per acre, or to make possible more efficient management, would be welcomed. Again the demand for labour for the manufactures would combine with the demand for labour on the farms to make work so plentiful that the social changes would be carried through without any considerable suffering for the labouring classes, in fact rather to their advantage.

[1] In 1757, in the parish of Cartmel, a commission reports eighty-four encroachments by seventy-five persons to the value of £176 12*s.* 1½*d.* On payment of the allotted sum the encroachers were confirmed in possession. Stockdale: *Annals of Cartmel*, p. 197.

[2] *Common Land and Enclosures*, p. 107. Speaks of the influence of urban and industrial growth, but says nothing of the influence of the domestic system.

[3] See below, p. 128.

[4] Holt in 1795, also Aikin, remark that land had become more minutely divided in the previous forty years.

On the other hand, the combination of farming with manufacturing in the domestic system made the compact holding preferable to the scattered strips of the common fields. The profits of the manufacture would also tend to make the farmer-manufacturer indifferent to, if not actually in favour of, the process of enclosure. Thus we see that in Lancashire the two main objections to enclosures, the consolidation of the land into larger farms, and the social suffering of the lower classes and consequent depopulation, did not obtain. The tendency to small holdings was accentuated rather than checked during the period of enclosures. The demand for labour due to the more intensive farming necessary to supply dairy products and meats for the growing towns, and the demand for part or full-time labourers in the manufactures themselves, was so great as to lead to higher wages, and increased rather than reduced population. These facts go far to explain why there were no Acts for the Enclosure of Common Fields in Lancashire during the eighteenth century. The necessity or rather the presence of Acts for the enclosure of common and waste may have arisen from the fact that proportions of land to be given to each owner were more difficult to determine, and Acts with commissioners were necessary to fix the changes and avoid litigation. Again, in many parts there would be indeterminate common rights for which there might be a legal doubt as to their holders being entitled to any compensation, and the holders of such rights would oppose enclosure as tending to extinguish their privileges without compensation. In enclosing common fields these questions would hardly arise, and complete agreement would be much more easily reached. Further, as the common fields were mostly in the alluvial plains of the valleys, it may be presumed that the farmers there would be more progressive than their struggling brethren of the less prosperous hill districts.[1] Then again it must be remembered that many of the Acts in the first sixty years were mainly to confirm an agreement already reached.

[1] See above, p. 15. Young's strictures on the slovenly grass farmers of Lancashire might be compared with Cheshire dairy farms.

In conclusion, it may be noted that enclosure would probably be easier where the owners were largely on a social and economic level. Marshall describes the process in the vale of Pickering, which by 1788 was in a state of enclosure. This district was almost entirely in the hands of small yeomen, and enclosure had been reached by amicable arrangement amongst themselves.[1] This would seem to indicate that where small-holders prevailed to such an extent as they did there, and in most parts of Lancashire, there would be a community of interest and consequently less mutual suspicions of each other's motives than would prevail where the project was being pushed by a few large landholders.

Summary.—We may sum up the forces making for enclosure by agreement rather than by Acts. There was first the force of example from the enclosures of an earlier period, as well as the fact that enclosures were much more numerous than open fields.[2] Much of the prejudice against the change would have died out, and when new methods came in, the advantage of enclosures would be so manifest that objection to new ones would be slight. Then we have seen that the accentuated tendency to small holdings and the presence of growing towns made inoperative the usual objection, viz., depopulation did not follow enclosures in Lancashire, and there was an increased rather than a decreased demand for labour. In the third place, the small amount remaining to be enclosed would mean that there would be a minimum of disturbance in the social arrangements. A fourth influence was that of the manufacturing element in the population. For the farmer manufacturer a compact holding was preferable to a scattered one. For the cottager, a few days of agricultural labour more or less did not much concern him. A steady supply of weft from the spinners was more important. In the fifth place, the practice of enclosing from the waste for a century or more had familiarized small-holders with the principle. And, lastly, there was that community of interest amongst the landholders, who were more nearly on a social and economic level than in most other parts of England.

[1] Marshall: *Yorkshire*, Vol. I, pp. 17–19. [2] See pp. 61–2.

CHAPTER III

ECONOMIC STRUCTURE OF FARMING

II. Markets, Prices, and Transport of Produce

Not the least important part of the economic structure of an industry is the organization by which the producer is linked with the consumer. The character and efficiency of this organization plays a great part in determining the extent of the effective market for the goods, and the extent to which specialization can take place in given localities. Not only does this organization, by means of its knowledge of local conditions in widely separated places, link up the producer and consumer most economically, but its members are the most active agents in promoting improved means of transport and communication.

The method of marketing, and consequently the organization by which the consumer is reached, varies with the product to be marketed. The most direct method, and therefore the simplest organization, obtains in connection with the most perishable forms of produce. Milk and fresh vegetables represent the perishable goods from the farm. So we find them produced in close proximity to the groups of consumers. Towns are supplied from the country in the immediate vicinity. In the eighteenth century, in some places like Liverpool, large numbers of cows were kept in the town itself. In 1795, Holt estimates that five or six hundred cows were kept in Liverpool, and were fed with hay and the food products from the breweries.[1] But this method did not, of course, supply the entire demand, and for five or six miles around, the cows kept were almost wholly for the supply of the milk and butter required in

[1] Holt: *Agriculture in Lancs.*, p. 15.

the town. Rarely was milk brought from a greater distance than ten miles, and the individual producer was in direct touch with the individual consumer. This system obtained round Manchester also, but not so many cows were kept in the town itself, because Liverpool being on the coast, could draw its supplies from only a half circle of country, while Manchester could draw from every side.[1]

Up till the last quarter of the century, the milk was brought into town on horseback, and distributed to the consumers by some one, usually a woman, from the farm. During our period this system prevailed, and it was not till the later years of the century that the practice arose of conveying the milk in wooden vessels on carts.[2] Similarly, it was not till after the beginning of the Industrial Revolution that there arose a class of retailers who bought the milk wholesale from the farmers, and undertook the organization of the distribution in the town.[3] This was originally due to the high price of labour, and as the towns got larger, there would be added the economy in the selling organization thus made possible. One retailer could sell the milk from a number of farms.

The growth and sale of market-garden produce was on a similar basis. The growth of fresh vegetables was sometimes carried on in connection with the dairy farm, because of the possibility of selling the produce at the same time as the milk.[4] The sale of butter and eggs would be on the same basis also, but less dependent on immediate sale, and therefore they could be brought greater distances. But here, too, the middleman did not enter in to any great extent, except in connection with the sale of the local surplus to distant markets beyond the farmer's personal reach. In the remainder of this discussion when products are spoken of, it will be understood that the surplus over local requirements is generally meant. And in the disposal of this surplus the middleman played an important part in the eighteenth century.

[1] Holt: *Agriculture in Lancs.*, p. 15. [2] *Ibid.*, footnote to p. 15.
[3] *Ibid.*, p. 15.
[4] *Ibid.*, footnote to p. 15. An advantage of the carts, he says, is that the woman can take along some greens as well for sale to the customers.

In fact, the development of the middleman function and organization constitutes one of the most notable features of the century from the Restoration to the outbreak of the Industrial Revolution. In earlier times the middleman was looked upon as an unprofitable member of society, and his activity was jealously restricted by repressive legislation, and continuous government interference. But between 1660 and 1760 this legislation was repealed or fell gradually into disuse, and government interference was to a great extent eliminated. During that period the middleman, by his efficiency and by the real economic services he rendered, established himself in the important position, from which even the selling economies of great modern producing agencies have not succeeded altogether in ousting him. With regard to farm products, he retains his place with scarcely diminished power.

Several conditions favoured his growth, but he in his turn had no small part in creating and extending the range of those conditions. It is not too much to say that the fourfold increase of British foreign commerce[1] and the accompanying increase in domestic trade during the century before the Industrial Revolution could not have taken place without the organizing and directing work of the classes of middlemen who sprang up in that century. This growth in foreign trade was the result partly of a largely increased agricultural production, leaving a surplus for export; and partly of the rapid growth of manufactures, especially wool. The growing extent and complexity of the market made the specialization of certain localities in production economically profitable. It will be well to trace here the rise and growth of the middlemen function and organization as it affected the disposal of agricultural produce. This will group itself round three products, corn, meats and wool, with a word or two relative to the marketing of butter and cheese.

Corn and Corn Products.—There were two main

[1] Westerfield: *Middlemen in English Business.* Tables of Exports and Imports and of shipping, pp. 122–3. Index Number of shipping rises from 45 in 1663 to 181 in 1760. That of the foreign trade rises from 51 in 1662 to 217 in 1760–4.

phases in the evolution of the English corn market from the simple manorial market to the commencement of the eighteenth century. Instead of the perambulatory feeding of the simplest type, we find a movement of corn to a specific centre, especially in the case of monasteries. This was supplemented by a constant movement of corn from one manor to another for seed or to supply deficiencies due to local bad crops. Then we find the local markets displacing this simple natural economy in the twelfth century, as the towns became something more than the centres of manorial communities. The local market remained the dominant feature of the corn trade until the sixteenth century. During the sixteenth and seventeenth centuries the corn market is dominated by the metropolitan area of London.[1] From 1581 to 1711 London trade made up 80 per cent. of the total trade of the country, although its population during that time never exceeded 10 per cent. of the whole.[2] Prof. Gras says that Arthur Young was the first contemporary writer to notice the influence of the metropolitan market on prices.[3] Strictly speaking, this may be true, but the discussion by Daniel Defoe, while not analytical, nor specifically directed toward the price problem, is yet the clearest indication that the dominating influence of the metropolitan market was perceived by 1738.[4] Naturally it took some time for the local sources of supply and the marketing organization to adapt themselves to the new situation. It may be said that this adaptation was completed during the first half of the eighteenth century, especially in view of the extensive export trade, which may be said to constitute the second aspect of the metropolitan phase.[5]

As early as the thirteenth century at least there had arisen a class of dealers called corn mongers,[6] and in 1419 corn brokers are mentioned as if actively engaged in the

[1] N. S. B. Gras: *Evolution of the English Corn Market.*
[2] *Ibid.*, pp. 74–5.
[3] *Ibid.*, pp. 98–9.
[4] *Complete English Tradesman* (Ed. 1738), I, 343–4; II, 112–37.
[5] N. S. B. Gras: op. cit., pp. 89–93.
[6] *Ibid.*: op. cit., p. 19.

corn trade.[1] By 1552 we find these middlemen attracting the attention of Parliament. The statute of that year tried to regulate their activities and limit their numbers. Their names indicate the way in which they performed their economic function of linking up the producers of a surplus in one locality with the consumers in a district which was not self-sufficing. The "badger" or "bagger" was the dealer who went from farm to farm with pack animals to carry the grain he purchased. The term "kidder" is obscure, but he seems to have been an inter-market dealer. The "lader" was active in the river counties, and loaded the grain into barges or boats for conveyance to distant markets. The "brogger" or broker was at first one who brought buyer and seller together, but took no part in the actual transaction. Yet he developed naturally and easily into the agent for one party or the other. The "carrier" was also at first an employee whose sole business was transportation. But by the acquisition of specialized knowledge through his frequent journeys to different parts of the country, he passed easily into the speculative dealer and thus added the middleman function to that of carrier.[2]

The spirit of earlier industrial and commercial legislation was in favour of the consumer, and the statute of 1552 [3] was a compromise between a wish to eliminate the speculative middleman, who would increase the price to the consumer, and the recognition of the fact that the varying density of population and the consequent distance between producer and consumer made the existence of such a class a necessity. The general principles of this statute were not new in so far as it was directed against the practices of regrating, forestalling, and engrossing, and it continued the former exceptions in favour of the maltsters and millers, and bona fide retail dealers. Its new feature was that it introduced a system of licensing certain badgers and drivers to engross and regrate, but not to forestall. These licences were to be issued to "badgers, laders, kidders, and carriers

[1] *Liber Albus*, I, 261. Quoted by N. S. B. Gras, op. cit.
[2] Westerfield: *Middlemen in English Business*, pp. 135–7.
[3] 5 & 6 Ed. VI, Cap. 14, Sec. 7.

of Corn, Fish, Butter and Cheese." The issuing of them was entrusted to the Justices of the Peace in the county where the candidate lived. The result was that there were great local inequalities in the ease with which the licences could be obtained. The difficulties thus raised were practically removed by amending the statute in 1562. The amendments took the form of limiting licences to married men who were householders and had lived for at least three years in the county for which a licence was asked. A fee was to be charged and a register kept of all licences issued. This legislation seems to have operated tolerably well until after the Restoration, when it began to break up.

The first dissolvent element was the statute in 1663,[1] permitting export or engrossing of corn when the prices at home fell below certain listed prices.[2] Obviously men who did not require a licence to enter this trade when prices were low could be found engaged in an illegal business when prices rose again above the listed level. Then again the price would sometimes be below the legal level in some districts and above in others. It was not to be expected that men who had engaged their capital in this business would cease trading when the prices rose beyond the level up to which their business was legal. "The Act of 1663 was thus an opening wedge in the rigid restraint laid by law upon the middlemen of the corn trade."[3]

Sampling.—Another element tending to break up the licence system was that of bringing only samples to market,[4] instead of whole loads of grain. At first a simple economy of carriage, this method lent itself to large buying, and enabled the farmer to sell his whole surplus crop to one buyer, delivering direct to a specified place at stated times. This practice arose early in the eighteenth century, and by 1750 was quite general. It made a great difference in the appearance of the corn-markets.

[1] 15 Chas. II, Cap. 7.
[2] Prices set were: wheat 48*s.*, barley 28*s.*, oats 13*s.* 6*d.* per quarter.
[3] Westerfield, p. 144.
[4] This practice was of much earlier origin, at least in London. Strangers were not allowed to sell corn by sample (1354).—*Calendar of London Letter Books*, Vol. G, p. 33.

"Instead of the vast number of horses and wagons of corn on market days there were crowds of farmers, with their samples, and buyers such as mealmen, millers, corn-buyers, brewers, etc., thronging the market; and on the days between the markets the farmers carried their corn to the hoys and received their pay." [1]

As samples came to be entrusted to agents, the way was opened for greater speculation and a manipulation of the market that helped considerably to bring the control of the trade in corn into the hands of the dealers. The nomenclature of the seventeenth century gave way to more general names such as corn-buyers, engrosser, jobber, and hawker. They performed similar functions to those bearing the old names, but their freedom from legislative restrictions, and growing capital, and the increasing ease of communication, allowed them to buy, store, carry, sell and speculate more freely and extensively than before.[2] Another effect of these changing conditions was that as the laws against forestalling fell into disuse, and the buyers established connections with farmers through buying from samples, and dealers called on the farmers at their homes, and bought direct from the granaries, the farmers gradually ceased to go to market to sell their corn.

Export Corn Regulations.—Another circumstance that facilitated the rise of the middlemen was a change in government policy regarding the exportation of corn. In 1670 Charles II permitted the importation of corn subject to duties that decreased as the home price increased.[3] He also permitted the export of corn when home prices had fallen below certain levels, and on this export duties were collected.[4] These duties were repealed practically in 1689, when the principle of export bounties was adopted, and expressly in 1700. Hitherto, the Government had attempted to provide for times of scarcity by prohibiting the export, and under certain conditions allowing importation. Now they reversed the policy, but by means of

[1] Defoe: *Com. Eng. Trad.*, Vol. II, pp. 265–6 (1738).
[2] Westerfield, p. 147.
[3] 22 Chas. II, Cap. 3.
[4] 12 Chas. II, Cap. 4, amended in twenty-second year of reign.

export bounties encouraged the production of greater quantities of corn, so that the surplus of good years was carried off by exportation, and the supply in bad years would still be sufficient for home consumption. Thus we find that our period up till 1760 was the period of England's greatest export of corn. This remarkable period of export will be considered later, but at present it is noted as one of the elements in the rise of the middleman. Obviously it was not possible for the average farmer to be in personal touch with the foreign markets, and as the surplus for export increased there was a greater field for the activity of the middleman.

Westerfield remarks that "this long legislative contest against the rise of the middleman was at basis a struggle between the economic interests of the locality and of the metropolis."[1] The local public market, and the restrictions laid upon the dealings of middlemen buyers therein, were for the purpose of ensuring a direct connection between the producer and the consumer.[2] Only after the local consumers had been satisfied, and the existence of a real surplus had been proven, was the buyer from a distance permitted to operate.

"The rise of the badger through the device of the licence, and of sale by sample, represent therefore the growing ascendancy of the metropolitan and wholesale markets over the local direct sale and public markets."[3]

This ascendancy was practically complete on the eve of the Industrial Revolution. One result was to equalize the price to a considerable extent over the country with the London price as the standard, the country prices being lower only in proportion to the cost of carriage to the metropolitan centre. With the ascendancy of the wholesale market, the initiative in getting the corn to market passed from the farmer to the wholesale merchant operating directly or through agents.

[1] Westerfield, p. 150.

[2] Similar regulations may be found in the local public markets of Ontario towns to-day, when dealers may not buy until the market has been open for two or more hours.

[3] Westerfield, p. 151.

Functions of the Corn-buyer.—Before turning to a consideration of the remainder of the middleman organization which passed the corn with or without manufacture to the foreign market or to the home consumer, it will be well to note the function performed by the corn-buyers. In the first place they were assemblers for the exporters, millers, etc., who wished to buy in large quantities. The corn-buyers bought from many, assembled the wares and sold to few. In the second place, they were speculators, assuming a commercial risk for the sake of profit in another market or at a later date in the same market. "Time and places are equalized in supplies, and the prices become more stable over periods of time, and more uniform over large areas."

It has been seen that by the middle of the eighteenth century there was a distinct class of middlemen standing between the farmers on the one hand and the exporting merchants, the wholesale dealers and retail dealers, and the millers, maltsters, mealmen and brewers, etc., on the other. Three groups of consumers are to be kept in view. There is the direct consumer who buys the corn manufactured and feeds it to cattle, or has it ground at a neighbouring mill at his own expense before consuming it; there are those who buy it wholesale and manufacture it into food or drink before passing it on to its ultimate consumers; and there is lastly the foreign consumer, represented for our purpose by the exporting merchant. These classes were not separately catered for, but they or their agents were all in the market together.

Factors.—There is first the factor, who is simply an agent for a principal. His function was not speculation, but the linking up of the buyer and seller, and as such he is the successor of the old brogger. These factors set up in one place, and accepted commissions to buy or sell in that market. They established a correspondence with merchants or with other factors in other markets or ports, and, as agents, understood the purchase or sale of grain for customers at distant points. During the early part of the eighteenth century, when the increase in the size of

farms took place, large farmers began to employ factors in the large markets.

Corn factors were well distributed over the whole of England. In London they were numerous, and strong enough to build the Corn Exchange in Mark Lane,[1] and as the number of stands was limited to seventy-two, they had a practical monopoly of the sale of corn in the Port of London. In spite of the outcry amongst contemporary pamphleteers, they do not seem to have abused their power, although as the century drew to a close, the stands became concentrated in the hands of a very few factors. They sold from samples set out on their stands, and though some of them bought and sold on their own account, the majority of them remained simply commission agents. By manipulating the amount of the visible supply through their samples, they may have sometimes temporarily enhanced the prices, but there is no doubt that over long periods they steadied both supplies and prices.

Jobber.—The jobber was essentially a speculator. He operated over long periods, and stored the grain in granaries, and there was a danger that in times of scarcity he might unduly advance prices. Especially was this the case with the Port of London, which in October and May was declared to be either a closed or open port, for the succeeding six months, according as the local price was high or low.

By flushing the market with reserve supplies at these periods they could keep the port closed, and recoup themselves during the next six months at higher prices. Westerfield, who has investigated this subject at some length, concludes, however, that the possible use of foreign corn tended on the whole to equalize rather than to disturb the market price of corn. Similar conditions prevailed at the outports as well, and with similar results.[2]

Merchant.—The merchant is difficult to distinguish from the jobber. Both were speculators. But in strict nomenclature the merchant dealt in foreign markets, he was an

[1] The Corn Exchange in Mark Lane was erected in 1750 by private subscription amongst the parties interested, and its administration was in the hands of a committee.

[2] Westerfield, p. 157.

exporter or importer of corn. In times of dearth the exporting organization was used to buy corn abroad and import for home consumption. Most of the merchants were jobbers as well. Another distinction that may be pointed out is that the jobber speculated more in time relations in the one market, while the merchant dealt in many markets, and speculated in place relations. The period from 1660 to 1760 was a period of large exportation, and there was special opportunity for the rise of merchants doing a very large export trade. This increased export trade was due primarily to the fact that owing to the New Agriculture and the prohibition of the export of wool, the amount of corn produced was increasing much faster than the population [1]; and the policy of bounties encouraged the farmers to go on producing, because they would find a market for their corn through the exporters. No doubt the wars that devastated parts of Europe during so much of the early half of the century,[2] also formed a contributory cause.

The economic process of the integration of functions as capital increased in the hands of any individual class, is illustrated by the activities of these merchants. The strongest of the merchants in the first half of the eighteenth century set up very extensive organizations, having resident agents in the chief corn areas. With their large capital they began to finance other operations, and especially did they enter the business of banking and exchange. The most notable example of this is the firm of Coutts, corn merchants and bankers of London and Edinburgh. "The combination of country banking and mercantile pursuits was the order of the day about 1750." [3]

Millers.—We come now to that group who were primarily manufacturers and only became middlemen through the combination of circumstances that enabled them to increase

[1] With the advent of the Industrial Revolution the population in urban centres rapidly overtook the surplus of corn production, and during the 'eighties Britain became a corn-importing country.

[2] Wars of the Spanish succession, 1700–13; Polish succession, 1733–5; Austrian succession, 1740–8; Seven Years War, 1756–63.

[3] Westerfield, p. 166.

their profit by performing the middleman function. The primary purpose of the miller was to grind corn for those who brought it to his mill. His profit was entirely in the toll or commission he received for his services. In the first half of the seventeenth century some millers began to buy corn and grind it so as to sell the flour, but this enterprise was suppressed.[1] With the greater freedom of the early eighteenth century, however, the practice arose again, and the millers became as well mealmen, flour factors and corn merchants. This explains why so many of the millers were the objects of attack in the food riots[2] that characterized the 'fifties of the century. Their participation in the middleman's functions and profits was still new enough to be resented by the people. In times of scarcity their stores of corn would excite envy and the existing suspicion would tend to provoke attack on them.

Maltster, Mealman and Flourman.—The mealman and flourman were mainly restricted to internal trade, because of the difficulty of keeping flour and meal from spoiling at sea. Foreign trade was mostly confined to raw corn and malt. The meal from the great milling areas of Hertfordshire, Surrey, and the upper Thames was taken down the river to London in barges, and the mealmen of those areas were considerable enough to employ factors in London to sell their meal for them. Defoe, however, relates that about 1735 a change was coming over the mealman's business. Where formerly they had been the buyers of corn, and sellers of meal after having the grain ground by the millers, now the bakers were becoming retail mealmen, thus cutting out the city mealman, while the millers bought the grain, milled it and sold direct to the bakers in the city, thereby cutting out the country mealmen.[3] The functions of the mealman were those of a shopkeeper in

[1] About 1630, when regulations were made forbidding millers to buy corn to sell again. This was successful till the laws against engrossing and forestalling fell into abeyance in the early eighteenth century. Millers would naturally be among the first to take advantage of the new freedom.

[2] See especially the account of the Manchester food riots in 1757–8. Attack on the mill and warehouse of Hatfield, a miller. *Lancs. and Ches. Antiq. Soc.*, Vol. XXVIII, pp. 82–91.

[3] *Complete English Tradesman*, II, pp. 260–5 (1738).

London where he sold to private families and small bakers; and of a wholesale dealer and shipper in the country. He was also supposed to sell better flour, because he mixed different varieties of wheat together, and thus secured a better grade of flour than the farmers, whose flour was all from the one variety of wheat. But this gave opportunity for adulteration. In the Manchester food riots in 1757–8 one of the charges made against Hatfield and Brammel was that they mixed acorns, whiting, and beans with the flour.[1]

Originally malting was a domestic affair and was carried on by each farmer for his own purpose, the larger farmers malting a surplus which was sent to the towns. But gradually others entered the business, and it was combined with such businesses as brewing, baking, and victualling.[2] But during the eighteenth century there was a great increase in drinking in England, and the business assumed huge proportions. It is possible that Westerfield over-estimates the increase, because he does not give sufficient weight to the influence of the rapidly growing urban centres where, of course, domestic malting and brewing was impracticable, nor does he notice in this connection the very large export trade in malt. The increase of travelling, and consequently in the amount of drinking in inns and taverns, would also help to account for the large trade in malting. A table of exports of grain from Christmas, 1734, to Christmas, 1735, shows that Yarmouth stood second to London as an exporting port, and this ascendancy over the other outports was entirely due to the trade in malt. From that port 92,374 quarters of malt was exported. Wells owes its position as third port in the kingdom to the same cause, with 60,247 quarters. Other ports with a considerable export of malt were Lynn Regis, 17,411 quarters; Chichester, 11,339 quarters; Portsmouth, 8,245 quarters; Hull, 8,063 quarters; and Blackney and Clay,

[1] *Lancs. and Ches. Antiq. Soc.*, Vol. XXVIII. A fairly complete account based on the reports in the *Manchester Mercury* of the current dates, and letters from the firm published in *Whitworth's Advertiser*.

[2] *Vict. County History, Oxford*, II, 194.

which exported 9,369 quarters.[1] Apart from their export trade the maltsters sold mostly to the brewers.

Bakers.—Baking was an industry confined largely to the towns, and represents the last step in the process of the corn being made into food before it reached the ultimate consumer. The baker was essentially a manufacturer and retail dealer, but in his case, as in that of other corn-dealers, there is a tendency to assume other functions as well. This tendency is well marked in the first half of the eighteenth century. It was common for bakers to buy corn in the country districts, have it ground in custom mills, or even in mills of their own, thus combining with their baking the functions of the miller, corn-dealer, and mealman. For example, the firm in Manchester before referred to, was a partnership of a miller and corn-factor with a baker in town. That they dealt in other commodities also is shown by the report that the mob when they broke into the house of this firm on June 7, 1757, threw into the street a great quantity of cheese as well as flour. In the report Bramwell is referred to as a baker who grinds his own corn, and who for some time had been a considerable dealer in corn.[2] Another writer of the period shows the various ways in which the bakers got their flour. "Many in country places buy all in corn, and have it ground either on hire or at mills of their own; some buy only part in corn, and part in meal as opportunity offers; whilst others, particularly in London, buy all they use in flour from the mealmen or meal factor."[3] The bakers sold direct to consumers, though in some instances itinerant cadgers were used in London, having every thirteenth load as their profit.[4]

Brewers, Distillers, Taverners.—The brewers, distillers and taverners represent the middleman who passed the corn to the consumers in the form of drink. The brewer

[1] Postlethwayte: *Universal Dict. of Trade and Commerce*, 3rd Ed., 1765, Vol. I, under the article on Corn. (The pages of this work are not numbered.) The table is given and a certified Statement from the Custom House, London. March 8, 1735.

[2] *Lancs. and Ches. Antiq. Soc.*, Vol. XXVIII, pp. 82–91.

[3] *Tracts on the Corn Trade*, 1766 (Rylands Library; S. 69, T. 3, K. 137), p. 23.

[4] Westerfield, p. 174.

before 1689 was a retail dealer as well. His practice was described by a writer in 1760 as follows: The brown ale and small beer were

"mostly fetched from the brewhouse by the customers themselves, and paid for with ready money; so that the brewer entertained but few servants, fewer horses, and had no stock of ales or beers by him, but a trifling quantity of casks and his money returned before he paid either his duty or his malt." [1]

But during the wars between 1689 and 1713 the duties on these liquors were heavily increased, chiefly in the form of excise on malt, hops and coals. As the duty on hops was the smaller, beer was devised as a cheaper drink to produce than ale. The custom of drinking porter also arose.[2] This was beer stored for a period of at least five months. All these circumstances, combined with the great increase in travelling which increased the amount of liquor sold at the inns, meant that a large trade was possible, but also that larger capital was necessary to carry it on. The brewer practically ceased to retail his own wares, and retailing passed entirely into the hands of innkeepers, and alehouse keepers. About the middle of the century, however, they began to reassume this function by gaining financial control of many of the inns and ale-houses in the country. This control over the retailing of their own goods gave them considerable power over the markets for corn. They formed such a large proportion of the buyers that in the last four years of the reign of George II laws were passed forbidding the making of certain alcoholic liquors from any sort of grain, or from any flour and meal.[3] These years were years of scarcity in England, and it was felt that grain should not be used so much for liquors when it was needed for food, and the presence of brewers and distillers as such large buyers of grain unduly enhanced the prices for the poor.

Two other points may be briefly noted. The first is that the itinerant brewer was employed extensively in the eighteenth

[1] *Gentleman's Magazine*, 1760, p. 527.
[2] The use of porter spread rapidly after 1722.
[3] 30 George II, Caps. 10 and 15; 31 George II, Cap. 1; 32 George II, Cap. 2; 33 George II, Cap. 4.

century.[1] The other is the adoption of the national system of licensing retailers. For a long time licensing had been resorted to by local authorities for the sake of administrative control, either as a temporary or permanent expedient. But in 1736, an Act of Parliament provided that no person "should be permitted to vend, barter, or utter spirituous liquors, except by a license with a duty payable thereon."[2] The result is that it concentrated the trade in the hands of comparatively few retailers. There is no doubt this legislation also gave an impetus to the movement of the brewers and distillers a little later toward control of the retail houses, and forms the only important exception to the growth in the freedom of the middleman from government control during our period.

Markets and Prices.—There were three main markets for the surplus grain of the corn-growing counties; viz., the industrial areas that had ceased to produce sufficient for their own needs, the great urban centre of London, and the foreign market. Before 1760 there was comparatively little local specialization in industry to the exclusion of corn-growing. Westerfield points out that by 1760

"a few centres in Lancashire and Yorkshire had specialized at textile manufacturing to the degree that they gave over, comparatively speaking, Agriculture, and so devoted themselves to manufacturing that they became dependent on adjacent districts for corn supplies."

But in the older industrial regions in the West of England, and in Norfolk, the specialization had not become so intense, and they supplied their own needs. This process was furthered by the fact that in the manufacturing districts of Lancashire and West Yorkshire, the land was not so productive, nor the climate so favourable for corn production as in the eastern counties, and in the West. Corn production further declined because the increasing manufacturing population made dairy-farming, and stock-breeding more

[1] *V.C.H. Berks*,, I, 407.

[2] From *Gentleman's Magazine*, 1736, 595; and *Journals of H. of C.*, 22, 638. This quotation is from the resolution of the House, on which the Act was based.

profitable than corn-growing. A writer in 1758 notices this specialization,[1] especially on the West coast. He says

"that the counties which are the most populous, and where manufactures chiefly flourish in both islands, generally grow less corn than other counties less populous and less manufacturing. Thus many counties on the East coast generally supply others on their own side, but particularly the West coast of the island, even in times of plenty."

Even this supply was not always adequate for the growing population of the Manchester area.[2] Hatfield and Bramwell, defending themselves against the charge of engrossing, in June, 1758,[3] say that they had not bought much corn locally, but had brought most of their supplies from the southern and remote parts of the kingdom; and they claim that their importation had actually lowered the price. To the charge that they had greater quantities than their trade required, they reply that their stock was only sufficient for the demand, in view of the uncertainties of wind and weather, and the difficult passage of vessels by sea, especially in time of war. In another letter which followed the later riots of November, 1757, they speak again of their imported corn.[4]

The chief corn markets of Lancashire about 1750 were Ormskirk and Prescot,[5] from which the corn was carried to Liverpool, and the manufacturing area round Manchester, and to the north and east of it. As early as 1735, Liverpool figures amongst the negligible ports in the export of corn. In the previous year only £249 was paid as export bounty on grain from that port.[6] The small surplus represented by that export would be more than wiped out by the growth of Liverpool, and of the Manchester area in the next twenty years. The farmers of Lancashire carried

[1] *Tracts on the Corn Trade.* Written 1758, republished 1766. Rylands Library. Vol. 137. T.3.K.

[2] 1730, 33 windles of imported corn at Liverpool were unsaleable because of the exceptionally good crop of that year, so that by 1730 corn was being imported into the S. Lancashire area. *V.C.H., Lancs.*, II, 419–36.

[3] *Whitworth's Advertiser*, June 14–21, 1757, quoted *Lancs. and Ches. Antiq. Soc.*, Vol. XXVIII, pp. 82–91. (The riot took place June 7.)

[4] *Ibid.*, Jan. 9, 1758; following the riots of Nov., 1757.

[5] Pococke (1750), I, 207, 209.

[6] Postlethwayte: *Univ. Dict.* (referred to above, p. 82, note 1).

their own corn a considerable distance to market. The figures given by Young in 1770 show that they carried corn from 7 to 12 and 14 miles, distances only exceeded by some of the mountainous districts of Northumberland and Cumberland.[1] This would indicate that Lancashire corn production was not very great, or markets would have been established that would have permitted a shorter carry for the farmer. An instance of the use of carriers is noted by Young. "The farmers round Penrith bring their corn to that place, whence it is sent to Kendal by carriers, to the market there."

But the movement of corn into the industrial area of South Lancashire and West Yorkshire is insignificant when compared with that toward the great consuming market of the kingdom. Not only did London draw off the surplus corn of the Thames valley, the richest corn-producing part of England, but coasting vessels from the north and from the east coast of Kent brought their quota to swell the total. In the early 'fifties of the century the *Gentleman's Magazine* began to quote the prices of grain monthly from the following markets, all of which were supplying London :[2] Mark Lane (the waterside exchange), Basingstoke, Reading, Farnham, Henley, Guildford, Warminster, Devizes, Gloucester, Crediton, and London. Besides being the largest consuming centre of the kingdom, London was the largest exporting centre for corn. In 1734–5 London exported 59,784 quarters of wheat, while Portsmouth, her nearest competitor in that grain exported only 16,876 quarters. Other ports in order of their wheat export were Arundel, Berwick, Southampton, Chichester, Lynn Regis, Yarmouth and Dover. The total export of wheat from the country was in that year only 153,343 quarters, so that London exported roughly two-fifths of the total. When all grain exports are considered, London is still first, but Yarmouth and Wells are considerably ahead of Portsmouth, and the order of the others are slightly changed. As noted above,

[1] Young: *Northern Tour*, facts gathered from Vols. II and III, and numerous references.

[2] *Gentleman's Magazine*, Jan., 1754. This reference is typical of every issue that year and before for two or three reasons.

Liverpool scarcely figures in the table. The superiority of Yarmouth and Wells over the other outports is due to a large export of barley and malt.[1] It should be noted, however, that this year was, with the exceptions of 1730, 1731 and 1736, the smallest export year in the 'thirties. Yet it is likely that in other years the various ports held their relative positions with only minor changes.

The export of such large quantities was a feature of the first sixty years of the eighteenth century. "Until the close of the fifteenth century England produced a surplus of corn for export." In the sixteenth and seventeenth up till about 1670, the rapid growth of London had reversed the direction of the foreign corn trade. Although export was still going on,[2] it was probably more than balanced by the imports to the London area. But after the Restoration, freer importation and export, though under duties, followed by the policy of export bounties, and the rise of the new agriculture, caused the supply again to become sufficient for export. The following table will show the rapid rise of the exports up till 1756,[3] when there followed three years of poor crops, and restriction or prohibition of export:

AMOUNTS IN QUARTERS.

ANNUAL AVERAGE FOR THE DECADE.

Decade.	Wheat.	Barley.	Malt.
1700–9	104,000	27,300	115,625 [4]
1710–19	104,000	22,400	209,100
1720–9	114,600	15,700	270,700
1730–9	294,500	36,500	185,100
1740–9	289,000	58,100	246,300
1750–6	433,143	76,714	292,800

It will be seen that during the fifty-six years included in the table the export of wheat increased by 416 per cent.,

[1] Postlethwayte. As above, p. 82, note 1.

[2] Owen of Henllys, *Descr. of Pembrokeshire*, describes in 1603 the export of corn to "Fraunce, Spain, Ireland, North Wales, and other places," p. 56.

[3] *Museum Rusticum*, II, 289–96. See App. IV, *infra*.

[4] (1702–1709).

barley by 281 per cent., and malt by 317 per cent. Reference to the complete table will show that the record year was 1750, when the export of wheat reached 947,000 quarters, barley 224,000 quarters, and malt, though not quite so much as in one or two other years, was 331,000 lb. After 1750 the amounts decreased till the lean years of 1757–9 were reached. Even when exportation was resumed, it never reached the old volume, and during the 'seventies the balance swung to the side of import, where it has continued ever since. In the years between 1732 and 1756 exports exceeded imports by more than 11,000,000 quarters; but from 1767 to 1801, the imports were 7,000,000 greater than exports.[1]

"As compared with the average price of wheat in the seventeenth century the first sixty-five years of the eighteenth century show a fall of 16 per cent."[2] A comparison of the years of high prices with the corresponding years in the table of exports,[3] will show that when the price rose at home because of scarcity, the export fell, and in some years the export bounty was suspended. After 1700 the bounty on export was suspended in six years, viz., 1709, 1710, 1741, 1757, 1758, and 1759, while in 1741, 1757, and 1758, corn was admitted duty free.[4] The total of wheat admitted in those three years was only 169,455 quarters,[4] considerably less than a normal year's export IN THE TWENTY years during which they occurred. It is probable, therefore, that the benefit of free import was not so much in the actual amount as in the possibility of its reducing the prices, and this kept the home dealers from taking full advantage of the scarcity. The average price of wheat at Windsor from 1740 ot 1760 inclusive was 38*s.* 3*d.* per quarter, and in the years of suspended bounty, including three of free import, the price was 46*s.* 6*d.*, and 41*s.* 6*d.*, and 39*s.* 6*d.*[5]

Lancashire prices have been difficult to obtain during

[1] Lord Ernle (Prothero): *Eng. Farming, Past and Present.* Appendix III, D.
[2] Lord Ernle: *Eng. Farming*, p. 262.
[3] See below, App. IV.
[4] Lord Ernle (Prothero): *Eng. Farming*, p. 261.
[5] See *infra*, App. IV, based on *Museum Rusticum*, 1765 (II, pp. 70, 129).

the period. But those taken from the *Manchester Mercury* in 1752–3 illustrate the normal relation between a country market of the time and the metropolitan one. From March, 1752, when the price of wheat was 24*s.* a load, the price gradually fell to 18*s.* 6*d.* in the early part of June, then rose to 25*s.* at the end of September, when, after holding fairly steadily till December, it fell away, and during December, 1752, and January and February of the next year it ranged from 18*s.* to 20*s.* per load. It then rose again till in June it stood round 24*s.*, and there remained till September.[1]

At Windsor during the same time the average price was from 41*s.* 10*d.* to 44*s.* 8*d.* per quarter.[2] At Bear Quay and Mark Lane the prices in January, 1752, were 33*s.* to 34*s.*, and in 1753, 29*s.* to 33*s.*[3]

From the foregoing statements it will be seen that on the eve of the Industrial Revolution, England had just emerged from a period of low prices and plentiful crops, into a period of comparatively high prices and scantier crops. From 1700 till about the middle of the century, the production of corn had been increasing much faster than the population, but in 1760 the difference was beginning to be made up by the flourishing urban centres, especially Liverpool and the textile centres of the north. The question occurs, why did not the farmers in this period of low prices lay their corn land to pasture and by reducing the production raise the price again? Hasbach argues that the farmers adopted new methods of agriculture in order to reduce the cost of production. The bounty probably encouraged continued production by providing a steady market at fair prices, and thus kept up the area under cultivation. On the other hand, pasture was discouraged by the prohibition of the export of wool during this period. Thus even the government policy furthered the growth of urban manufacturing centres by encouraging cheap food to maintain the workers who should specialize in manufacture, and by trying to ensure cheap raw materials with

[1] *Harrop's Weekly* (*Manchester Mercury*), March, 1752, to Sept., 1753.
[2] See Note 5, p. 88.
[3] Lord Ernle (Prothero), p. 263.

which to compete successfully against the industries of the continent.

Meats.—Next to corn itself cattle were the most general product of English agriculture. Before the eighteenth century the middleman function, so far as it was performed at all, was managed by the graziers and drovers. The graziers were men in possession of large tracts of meadow land, and they bought lean cattle from farmers and fattened them for the market. They themselves marketed the cattle locally or at London, probably employing drovers. In this way the grazier performed the middleman's function of assembling the product for the market from numerous smaller producers. As a producer he fed the cattle and prepared them for the market. The drovers, originally employed temporarily or permanently by cattle raisers and graziers to drive their cattle, easily added the function of buying en route to sell in the market.[1] By the last half of the seventeenth century the drover was more middleman than employee. In the markets the farmers, drovers and graziers sold as a rule direct to the butcher.

The period up till 1760 is notable for two changes in this method of marketing. The first is the interposition of the jobber between the producers and drovers and the market, and the rise of the salesman who stood between the jobber and the butchers. The second is the way in which the drover ceased to exercise his middleman function, and became again an employee whose sole business was to drive the cattle to market for others. The jobbers bought the cattle from the graziers, drovers and farmers when the cattle were actually on the way to market. They sold again either on the market or while en route. And the same cattle might be jobbed several times before they actually went to the butchers. They also extended their buying to the farms, and by their superior knowledge of the market conditions gradually gained control of the markets, and farmers and graziers went less to market

[1] There is considerable evidence that drovers acted as agents for the buying of articles on commission, the conveyance of money and even loaned money on occasions.

themselves. "Before 1750 the jobbers had gained the monopoly of the live stock market."[1] Early in the century they began to develop a sort of Stock Yard; by acquiring tracts of grass lands near the markets they could keep their purchases in reserve and put them on sale when conditions were more favourable. Westerfield points out two results of this. One was that this reserve supply tended to equalize supplies over a period of time. The other, not so good, was that they could use the supply to flood the market, and so have a chance to buy up from the farmers and graziers at bargain rates, and thus retain their own monopoly of the market. In spite of the outcry amongst the pamphleteers of the time, it is probable that the jobber performed a useful economic function. By his speculative activity he would tend to cause a supply that varied in both place and time to fit a demand that was by comparison steady in many markets. As the roads improved and the farmers came into closer touch with the markets, and could market cattle as well in winter as in summer, the advantage of the jobber would be lessened.[2]

The jobber specialized in the buying side of the business. The Smithfield market during the eighteenth century saw the rise of another middleman, the salesman. His function was to sell on commission for the jobbers and the graziers. Large graziers would consign droves of cattle to a salesman who sold to the best advantage. He also sold for the jobbers. The usual commission was 1*s.* 6*d.* per bullock and 3*d.* per sheep. During the decade 1751–60 the average annual sales on the Smithfield market amounted to 649,000 sheep and 86,500 cattle.[3] Some of the salesmen tended to assume jobbing functions as well. They rented large tracts of land and thus held cattle for some days before selling. Large sums of money would be left in their hands for varying periods from the sale of cattle for the graziers at a distance, and they employed this money in jobbing, so that some of them did a considerable jobbing trade with small capital of their own. The economic service

[1] Westerfield, p. 191. [2] Defoe: *Tour*, II, 370.
[3] Westerfield, p. 195.

they performed was chiefly in saving time and money for the graziers who would otherwise have been forced to attend the market themselves.

"The jobber and the salesman working together facilitated the satisfaction of both the breeder and consumer by reducing the difference between the cost at the farm and the selling-price at London." [1]

The drover had, as previously observed, added to his function the buying of cattle *en route* to market and disposing of them on the market along with those which he was employed to drive for the farmers. But during the eighteenth century, as the licence system declined, the jobber took over the buying and selling function and the drover became again an employee. Nevertheless, he was a very important man in the cattle trade. Hundreds of thousands of sheep and cattle had to be driven annually from breeder to grazier and to market, over country much of which was unenclosed, and it must have been no small responsibility to secure the safety of cattle and sheep over a journey of many days and perhaps weeks.

At the consumers' end of the scale we find the carcass, and the cutting butchers. The carcass butchers are the wholesale men who buy from the graziers or the jobbers, and slaughter the animals for consumption.[2]

The cutting butcher gradually became economically dependent on the carcass butcher, who, he complained, prevented him from buying in the open market and thereby raised the price. But in the eighteenth century, with no means of cold storage, the monopoly of the supply of meat was not very serious. The constant danger of spoiling would be an effective check on monopolistic raising of prices. In the smaller markets of the country outside London, the carcass butcher was absent, chiefly because the wholesaler cannot subsist where the trade is small.

Young gives the current prices of meats in the various parts of Lancashire in 1770.[3] Mutton varies from 2½*d.*

[1] Westerfield, op. cit., p. 196.
[2] Cf. the economic function of the large abattoir companies of to-day who supply the retail butchers in large centres.
[3] *Northern Tour*, III.

per lb. at Altringham, Liverpool and Warrington, to 3*d.* in the rural parts, such as Kabers and Garstang. Beef was fairly constant through the county at 2½*d.* to 3*d.* per lb. Veal was from 3*d.* to 4*d.* per lb., being highest in price at Liverpool. Pork sold at 3*d.* to 4*d.* per lb. The average prices throughout the north were 3*d.* for mutton, beef and veal, and 3½*d.* for pork. It will thus be seen that the prices in Lancashire ruled somewhat higher than the rest of the north except for beef, which was somewhat lower. The reason for this is probably the presence of the growing manufacturing areas in the county and the fact that the dairying would provide a constant supply of animals for sale. In 1765 a writer in the *Museum Rusticum* gives the price of cows as from £3 to £8, and Hogs from 5*s.* to 40*s.*[1] This was in Hertfordshire, but as average weights are not given, comparison is difficult.

Butter and Cheese.—Defoe in 1726 says that the chief butter counties were Suffolk and York,[2] which sent their butter in firkins up to London. He speaks of Suffolk as a county that produces perhaps the best butter and worst cheese in Britain.[3] The cheese counties are Cheshire, Wilts, Warwick and Gloucester. In this cheese trade Lancashire shares. Defoe himself tells us that Warrington has a great market for corn, cheese and potatoes, which are bought largely for export.[4] Maitland estimates in 1730 that London was consuming some 21,000,000 lb. of cheese annually, of which more than half came from Cheshire.[5] As part of this enormous export went by way of Liverpool, the Lancashire cheese was probably included under the general name, as the Wiltshire cheese was marketed under the name of Gloucester cheese.[6] The general price of cheese in Lancashire about 1770 was 3½*d.* per lb. in the south of the county, and 3*d.* in the northern parts. The average price through the northern counties was 3*d.*[7]

[1] *Museum Rusticum*, January, 1765.
[2] Defoe: *Compl. Eng. Tradesman*, Vol. II, p. 257 (1738).
[3] *Ibid.*: *Tour*, I, 41.
[4] *Ibid.*: *Tour*, III, 248.
[5] Westerfield, p. 205.
[6] *Ibid.*
[7] Young: *Northern Tour*, III.

Cheshire cheese was shipped from Chester direct to London, or sent from Frodsham to Liverpool, whence it was shipped either direct to London, Scotland, or Ireland. In some cases the cheese was conveyed across country to the Trent, down that river to Gainsborough or Hull, and thence by sea to London. The Gloucester cheese was mostly distributed on inland routes. It went by land to the Severn, thence to Bath and Bristol; by land to the Thames, and down that river to London, and from thence distributed to the manufacturing districts north-east of London; or it was sent once a year to Stourbridge fair, where it was sold to the retailers direct. Nor must mention of the Cheddar cheese of Somersetshire be omitted in this brief survey. It went mostly to London, where it fetched about four times the price of the Cheshire cheese.

The middlemen engaged in this business apart from the retailers, were the factors and cheesemongers. The cheesemonger was originally a retailer, but with the decay of the laws against engrossers, many of them became wholesalers. In the Cheshire cheese trade, the London cheesemongers operated a line of vessels of their own, and among the petitions against the bill limiting the number of horses to be used on carriages on the turnpike roads in 1751, there is one from the Cheesemongers, showing that they had also a large overland trade.[1] The factor was an agent employed by the cheesemongers of the capital, who was resident in the centre of the cheese-producing regions. He visited the farmers and arranged with them to deliver their cheese to Frodsham or Chester. Sometimes the trade was organized the opposite way, and it was the provincial dealer who employed a factor to sell for him in London.

Wool.—Wool was an even more important part of the national wealth in the early eighteenth century than it is to-day. About 1700, the value of the wool-clip was about one-fifth of the annual rent of the land of England, and the export of woollens alone brought in about one-tenth of the national income.[2] The raising of sheep was very widely dispersed, but certain districts specialized in it. These

[1] Westerfield, p. 208. [2] Smith: *Memoirs of Wool*, I, 222.

may be roughly differentiated as the south-west, centring round Wiltshire, and having for its chief market Cirencester ; a central district, centring round Leicester, and embracing the counties of Northants, Nottingham, Rutland and Lincoln ; an eastern district, consisting mainly of Norfolk and Suffolk, with Stourbridge fair as its principal market ; while the fourth district was that of Yorks. and Lancs. and the northern counties. This northern district differed from the rest in that its wool was of the poorest quality, and was not sought after by any of the main manufacturing areas. Apart from the home production for domestic purposes, the wool of these counties was spun and woven in the woollen areas of Yorkshire and Lancashire. But as early as 1654, the supply grown in the district was not sufficient for the supply of the Lancashire cloth-makers, and they began to import.[1]

Some of the wool of the northern counties was partially or wholly worked into cloth on the farms where it was grown, but the number of sheep kept on the small farm of the domestic manufacturer would not be sufficient to keep his loom supplied. Consequently the wool-buyer found opportunity for his work. In the woollen trade as in others, the middleman is often in earlier times looked upon as an unproductive person who preyed upon the public. In 1552 a statute attempted to suppress the middleman buyer of wool.[2] This Act instituted the system of licence but was constantly evaded by various devices, the most common of which was for the brogger to act as the nominal agent of the larger wool-growers.[3] But "in spite of all interference the woolman's business grew, and won its legitimate place in business, law and public opinion."

The middleman who was closely in touch with the farmer was the brogger. He was commonly the agent of a merchant. His method was that of the farm-to-farm canvass, with regular customers, picking up what additional

[1] *V.C.H., Lancs.*, II, 377.
[2] 5 & 6 Ed. VI, Cap. 14.
[3] *V.C.H., Suffolk*, II, 258. Based on *State Papers Domestic*, Eliz. CXV. 8, 14, 40.
[4] Westerfield, p. 265.

business he could. Smith quotes the case of a Yorkshire brogger in the eighteenth century who had from ten to twenty-nine regular customers, from whom he bought on the average £1 5*s.* of wool annually.[1] Sometimes, however, the name brogger was applied to all buyers of wool from the farmers, whether they were acting as agents or principals. This introduces us to the other class, the jobber or merchant. The merchants or jobbers bought either direct or from the first buyers, but they are distinguished as men who bought and sold in the fleece, usually without opening the packs. These were the middlemen mostly engaged in the trade in the north. As the wool of the north was of poor quality, and the manufacture of the north was of coarser cloths, and further, as there was no surplus for export, this organization worked well enough until the days of the Industrial Revolution.

But in other parts of the country, as the wool-brogger shaded into the jobber and merchant, so the merchant shaded into the wool-stapler. This was the buyer who sorted the wools he bought to suit the requirements of the manufacturers, and sold the different kinds of grades after sorting. He differed from the jobbers in that he had to have warehouses and a large capital, and the sorting of the wool according to its staple was his peculiar economic function. The remaining course of wool in its passage to the ultimate consumer will be treated under Industry, but enough has been said here to show the way in which the farmer disposed of his annual clip.

Transport.—The question of transport remains. How did the farmers get their produce to market? Water transport was necessarily limited to a few farmers favourably situated; and the great bulk of the produce had to be conveyed overland. In the summer, carts or wagons could be used, drawn by four, six, or eight horses, and as the century advanced, turnpikes improved the roads so that some winter travel by coach, and transport by wagon, was possible. But the more usual method was by pack-horse. The reference by Holt to the conveyance of milk into

[1] *Memoirs of Wool*, II, 465–6.

Liverpool on horseback up till the last quarter of the century[1] is striking evidence that the pack-horse was widely used for agricultural produce; for of all produce, liquids would be most difficult to carry on horseback, and for them carts would be used as soon as possible. The condition of the roads in the Liverpool district is also illustrated by the fact that about the middle of the century there was only one coach in the town, and it was not till nearly 1765 that stage coaches could make the journey all the way up to the town. Previously they had to stop at Holme's Chapel, or at Warrington.[2] Another point which confirms this suggestion is the use of the load in Lancashire as a measure for corn, when the quarter was the usual measure in the south. The Manchester price of 18*s.* to 24*s.* per load in 1753, compared with the Windsor price of 33*s.* per quarter,[3] would seem to indicate that the Lancashire load was something approximating a quarter. From this it may be concluded that the load was the normal load for a pack-horse, and had no reference to the amount that would be carried in a cart or wagon. A further point is in the contrast of the term to "carry grain," used of conveying it on horseback to market, with the term "leading" corn, used of harvest-time when the corn was brought in on carts.[4]

Contemporary writers agree in considering the roads impassable for carriages except in the summer-time. A Preston historian, speaking of the eighteenth century, says that the "great bulk of the roads in Lancashire were scarcely passable for carriages except in very fine weather."[5] Harrison, in describing the pre-turnpike highways of Lancashire and Cheshire, gives the following description,[6] which may be taken as typical:

"For many ages, and to the middle of this (the eighteenth) century, a causeway about 2 feet wide paved with round pebbles was all that man or horse could travel on, practically, in the

[1] Holt: *Lancashire Agriculture*, footnote to p. 15.
[2] Holt: *Hints on Roads. Communications to Board of Agriculture*, Vol. I, Pt. III, p. 184.
[3] See above, footnotes 1, 2 and 3, p. 89.
[4] Young always uses the term "carry" in speaking of marketing corn.
[5] Hardwick: *History of Preston*, p. 381.
[6] *Lancs. and Ches. Antiq. Soc.*, Vol. IX, p. 107.

winter season, both in Lancashire and Cheshire. This causeway was guarded by posts at a proper distance to keep the carts off it, and the open part of the road was generally impassable in the winter for mire and deep ruts. As trade increased, turnpikes became general, and the ruts were filled with pebbles and cinders, but still in winter no coach or chaise durst venture on them."

The same writer says that in quarter-sessions indictments against roads the width of the road is always given. It varied at the end of the 'seventies from 4 feet to 14 yards,[1] the commonest being 8 or 9 yards. The 4-foot road is described as the horse causeway. One advantage Lancashire had over other parts of England towards the end of the seventeenth century. Celia Fiennes remarks that

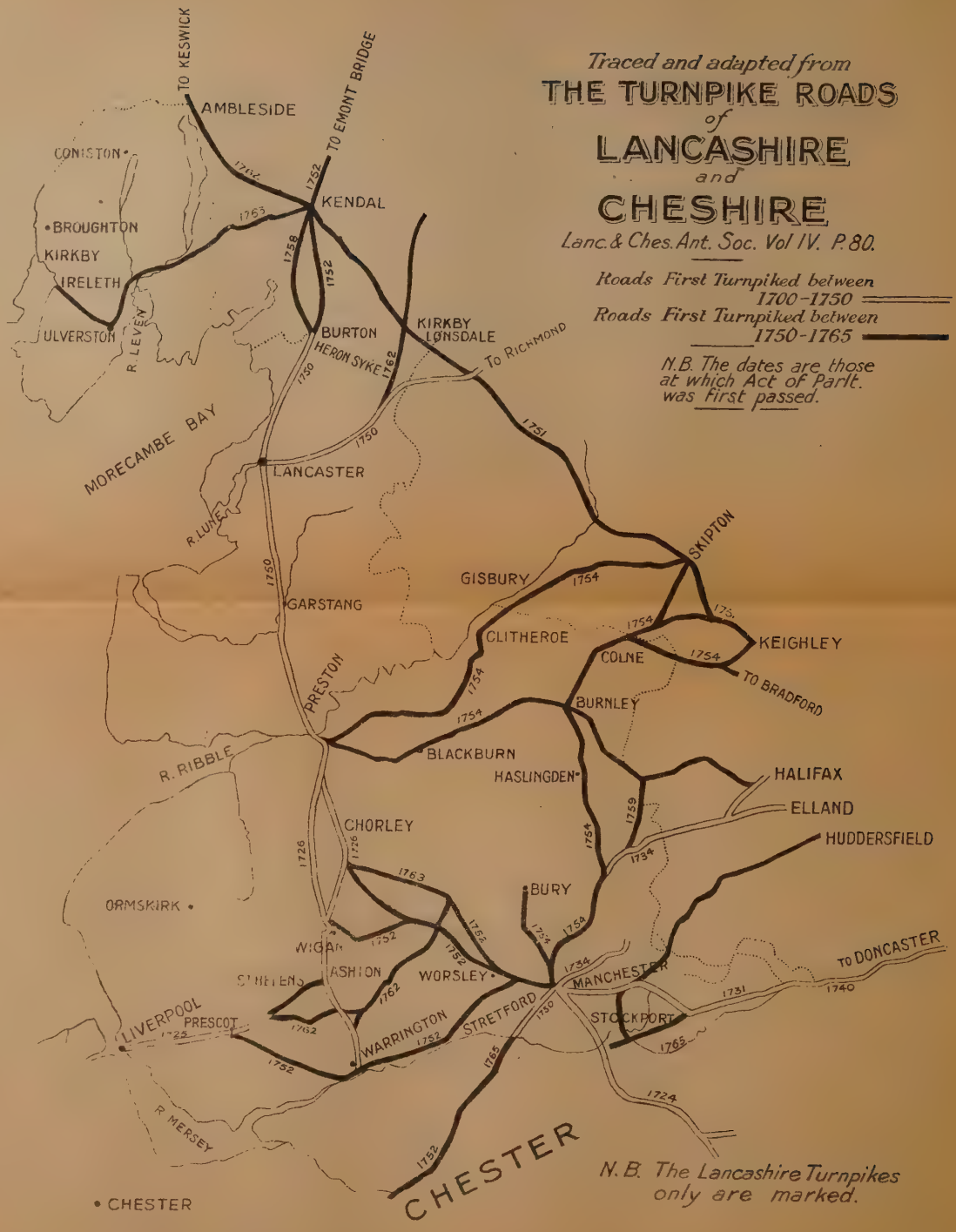
"at all crossways there are posts with hands pointing to each road, with the name of the great town or market town that it leads to, which does not make up for the length of miles, that strangers may not lose their road." [2]

This raises the interesting question as to whether signposts originated in Lancashire, or whether they were simply the first county to obey the Act of 1697. As the date of her journey is uncertain, the question cannot yet be answered.

Up till the time of the Turnpike Act all roads were under the control of the parishes, and their upkeep could only be enforced by indictments at the quarter sessions. There were numerous convictions during the first three quarters of the century in Lancashire under this Act. As travel through the parishes increased, it was obviously unfair to expect the inhabitants of a small parish to keep up the roads brought into disrepair by travel for which they were not responsible and from which they derived little or no profit.[3] Hence arose the permission by Parliament to establish turnpikes with toll-bars, by which a tax or toll could be collected for the repair and upkeep of the roads from those who used them most.

Turnpiking began in the seventeenth century but did

[1] *Lancs. and Ches. Antiq. Soc.*, IX, op. cit.
[2] Quoted by Harrison, *Lancs. and Ches. Antiq. Soc.*, Vol. IX, 108.
[3] As also to-day when automobile travel has compelled the provincial governments in Canada to undertake the building of new and the upkeep of most old highways.


Traced and adapted from
THE TURNPIKE ROADS
of
LANCASHIRE
and
CHESHIRE
Lanc. & Ches. Ant. Soc. Vol IV. P. 80.
Roads First Turnpiked between 1700-1750
Roads First Turnpiked between 1750-1765
N.B. The dates are those at which Act of Parlt. was First passed.
TO KESWICK
TO EMONT BRIDGE
AMBLESIDE
CONISTON
KENDAL
BROUGHTON
KIRKBY
IRELETH
ULVERSTON
R. LEVEN
BURTON
HERON SYKE
KIRKBY LONSDALE
To RICHMOND
MORECAMBE BAY
LANCASTER
R. LUNE
GARSTANG
PRESTON
R. RIBBLE
SKIPTON
GISBURY
CLITHEROE
COLNE
KEIGHLEY
TO BRADFORD
BURNLEY
BLACKBURN
HASLINGDEN
HALIFAX
ELLAND
HUDDERSFIELD
CHORLEY
ORMSKIRK
BURY
WIGAN
ASHTON
WORSLEY
MANCHESTER
TO DONCASTER
ST HELENS
LIVERPOOL
PRESCOT
WARRINGTON
STRETFORD
STOCKPORT
R. MERSEY
CHESTER
CHESTER
N.B. The Lancashire Turnpikes only are marked.

not reach the north much before the beginning of the eighteenth. Even then it made slow progress in Lancashire, for up till 1750 only eleven Acts were passed for the turnpiking of roads in that county. Of these two were roads south from Manchester into Cheshire, and three others led eastward into Yorkshire. The roads for which Acts were secured were—the great road from Burton in the north, via Lancaster and Preston to Warrington: 1726, Warrington to Preston; 1750, Preston to Burton; Liverpool to Prescot, 1725, continued to St. Helens in 1744; Lancaster to Richmond in Yorkshire, 1750; Rochdale to Elland and Halifax, 1734; and four from Manchester, the London road south through Stockport, 1724; south-west to Stretford and on into Chester, 1750; to Oldham, 1734; and east to Doncaster in 1731 and 1740.[1]

After 1750 turnpiking proceeded fairly rapidly, and as many Acts were passed between 1751 and 1760 as in the fifty years before. Reference to the sketch-map opposite will show that the turnpiking of the first half of the eighteenth century was precisely on those roads where there was the greatest amount of commercial or through traffic. The purpose of the Acts was to permit the improvement of communication between Liverpool on the one hand and Manchester on the other and the great north and south road between Warrington and Burton. Besides this the roads radiating from the Bolton and Manchester centre came under the turnpike movement. The other group of roads affected was that connecting the eastern parts of the county with the woollen area of West Yorkshire, showing the intimate connection there was between East Lancashire and West Yorkshire in manufacturing until the cotton industry was revolutionized by the new machines, and by steam-power.

But the fact that a turnpike Act was passed for a certain road did not mean an immediate improvement in that road. Toll-gates had to be erected, and unless an energetic trust borrowed money on the security of the toll no improve-

[1] Table of turnpiked roads, *Lancs. and Ches. Antiq. Soc.*, Vol. X, App. II. See *infra*, App. VII.

ment would be effected for some years. Meanwhile the roads not turnpiked remained in their former condition, so that the typical road of the period was one about 25 feet wide, four feet of which or thereabouts was paved with pebbles, or flat stones,[1] as a foot and horse path. Alongside of this "pack and prime way," as it was called, was a strip of earth road worn into deep ruts, and except in the driest weather, a sea of mire. The preamble to an Act for turnpiking the road from Manchester through Stretford and Hulme to Crosford Bridge describes what must have been a common situation in the growing parts of the county. This

"is a common highroad, part of the post road from London to Manchester; and by reason of the nature of the soil and the number of carriages passing through the same, the said road is become so deep and ruinous that in the winter season and frequently in summer it is very difficult to pass through the greatest part thereof with waggons, carts, and other wheeled vehicles; and travellers cannot pass without danger and loss of time and whereas some parts of the said road lying next to Crosford Bridge is many times overflowed with water and impassable; whereby the Post is delayed and several persons in attempting to pass through have lost their lives. . . . Even the turnpikes were little better." [2]

Young's savage comments on the road from Preston to Wigan are well known. He actually measured ruts four feet deep in that turnpike road, and he cautions travellers to avoid it as they would the devil. In "those 18 miles of execrable memory" he passed three carts broken down. The continuation from Warrington is a "paved road, and most infamously bad." The road from Altringham to Liverpool is "if possible worse than the one from Preston to Wigan." These are typical of the turnpiked roads over which he passed. The chief difficulty seems to have been that the road was paved only wide enough for one carriage, and it was consequently worn into holes and ruts very quickly.[3]

[1] *Lancs. and Ches. Antiq. Soc.*, Vol. I, p. 79, there is a photograph of the trough stone, on Riddyshore Scout gate, a pack-horse way. The broad stones are worn into a trough by the passing trains of many years.
[2] *Lancs. and Ches. Antiq. Soc.*, Vol. IV, p. 86.
[3] Young: *Northern Tour*, Vol. IV, pp. 580–2.

It was therefore along the pack and prime way that most of the traffic went. Defoe describes this near Wigan. He says:

"We are now in a country where the roads are paved with small pebbles, so that we both walk and ride upon this pavement which is generally about one and a half yards wide. But the middle road where the carriages are obliged to go is very bad." [1]

Along this paved way moved the pack trains, and in winter the only way the traveller could make rapid progress was to start early so as to be ahead of them. Otherwise he must be content to go at their slow pace until he came to a place where accident or design had left a passable turning out place.[2]

For passage over streams, ferries and fords were largely in use. It was not till 1751, for example, that an Act was passed for building a bridge over the Ribble at Preston.[3] Wesley, in his Journal, frequently tells of having to wait for the ferry-man on the other side to hear his calls and come to fetch him over. These ferries were numerous on the main streams of Lancashire, the Lune, Ribble, Wyre, Mersey and Dee.[4] In view of such roads as have been described, it is no matter for surprise that the sands should be largely used around the shallow bays of the northern parts of the Lancashire coast. The Ribble sands west of the Naze were a common and regular highway. The Leven sands were one of the principal highways of the northern part of the county, while one of the routes to Cartmel lay across the shallows of Morecambe Bay.[4]

[1] Defoe: *Tour*, III, 281 (Ed. 1769).
[2] *Communications to the Board of Agriculture*, I, Pt. III, p. 183, written by Holt.
[3] Defoe: *Tour*, III, 258 (Ed. 1762).
[4] *Lancs. and Ches. Antiq. Soc.*, Vol. IX, p. 127.

CHAPTER IV

ECONOMIC STRUCTURE OF FARMING

III. Social Conditions and Labour

The social structure of the agricultural community before the agrarian revolution was very clearly marked. At the top of the scale were the great landlords, owners of vast estates. They might be described as in the system, yet not of it, for with the exception of enthusiastic experimenters like Townshend, they lived only a part of the year on their estates, spending the rest of the time either in London or at watering places. To the remainder of the community they were beings of another sphere, who although possessed of great power, moved in a world which had few points of contact with the rural community. The management of their affairs was largely in the hands of stewards.

Gentry.—The first class of landowners who could be said to be closely in touch with the life of the community was that of the smaller gentry. They were landed proprietors, and did not themselves farm their lands, unless through bailiffs, but they were kept on their lands practically the whole time by the smallness of their incomes. An excellent description of this class of the community is given by a writer in 1792, who says that within the last forty or fifty years the small country squire had disappeared.[1] He was

"an independent gentleman of £300 per annum who commonly appeared in a plain drab or plush coat, large silver buttons, a jockey cap, and rarely without boots. His travels never exceeded the distance of the county town, and that only in assize or session time, or to attend an election.

[1] Quoted from Grose, *Olio*, pp. 41–4, by Lecky, *Hist. of Eng.*, VI, 169 *et seq.*

"Once a week he commonly dined at the next market town with the attorneys and justices. He went to church regularly, read the weekly journal, settled the parochial disputes and afterwards adjourned to the neighbouring alehouse, where he generally got drunk for the good of his country. He was commonly followed by a couple of greyhounds and a pointer, and announced his arrival at a neighbour's house by smacking his whip and giving a view haloo. His drink was generally ale, except on Christmas Day, the fifth of November, or some other gala day, when he would make a bowl of strong brandy. The mansion of one of these squires was of plaster striped with timber, not unaptly called callimanco work, or of red brick casemented bow windows; a porch with seats in it and over it a study: the eaves of the house well inhabited with swallows, and the court set round with hollyhocks; near the gate a horse block for mounting; the hall was furnished with flitches of bacon, and the mantelpiece with guns and fishing rods of various dimensions accompanied by the broadsword, partisan, and dagger borne by his ancestor in the Civil Wars. Against the wall was posted King Charles' 'Golden Rules,' Vincent Wing's Almanac, and a portrait of the Duke of Marlborough; in his window lay Baker's *Chronicle*, Foxe's *Book of Martyrs*, Glanvill on *Apparitions*, Quincey's *Dispensatory*, *The Complete Justice*, and a *Book of Farriery*. In a corner by the fireside stood a large wooden two-armed chair with a cushion, and within the chimney corner were a couple of seats. Here at Christmas he entertained his tenants, assembled round a glowing fire made of the roots of trees; and he told and heard the traditionary tales of the village about ghosts and witches, while a jorum of ale went round. These men and their houses are no more."

This is a lively and convincing picture of the smaller gentry as far as it goes. It shows us the hunting and shooting squire, dispensing and enjoying a generous hospitality, sincere if somewhat narrow in his interests, and exercising a paternal oversight over his little community. But the squire was much more than a landlord and social figure. His shadow was over all the life of the community. Sitting sometimes as a single justice, or with his brethren in a Petty Session, or in the more august Quarter Sessions, the squire dominated the administrative and judicial life of the community. As the century advanced, his influence became more and more predominant. Many of the powers of county government exercised by the Quarter Sessions

were gradually delegated to Petty Sessions or to single justices, who in a wide range of minor cases could decide alone matters of law and of fact, and could also decide what evidence they would hear. Besides this, in many districts the old manor and other local courts fell into disuse, and their functions passed to the squire. He also came to dominate the church vestry, and the administration of the poor law. Not only did the squires exercise administrative and judicial power, they became in some cases the "domestic legislature." They settled rates of wages, and the Assize of Bread, and in the Speenhamland bonus system near the end of the century, they introduced on their own authority what was in effect legislative interference with the general rate of wages, and what is by some writers considered the most pernicious piece of social effort England has known in her dealings with the problem of pauperism. "The social order that emerged from feudalism centred round the Justice of the Peace in England as conspicuously as it did round the bureaucracy in France."[1]

Yeomanry.—The third class of landowner consisted of the yeomanry. They were freeholders, and were the first class who actually farmed the property they owned. At the opening of the century they were probably the bulk of the rural landowners. Gregory King about 1688 estimated that there were 160,000 of these freeholders in the country with incomes ranging from £90 to £55 per annum, as compared with the squire's and small gentry's incomes from £280 to £450.[2] It was about the fifteenth century that the yeoman became a prominent figure in English rural life. During that period the small freeholders of the manor were reinforced by numbers of tradesmen who had made money in business and bought land, on which they settled. In the next 200 years the effect of the Taltarum's case was to render disposal of lands free from the hampering settlement or entail.[3] Owners of land constantly increased,

[1] Hammond: *Village Labourer*, chap. I. Their discussion is largely based on Webb: *Local Government, The Parish and The County.*
[2] Eden: *State of the Poor*, I, 238.
[3] The effect of this case is discussed in different places, notably Curtler: *Hist. of English Agriculture*, pp. 122–3.

and this no doubt counteracted the displacement of small-holders by enclosure. The result was that the yeoman at the end of the seventeenth century was one of the most prominent figures of rural life and comprised about one-seventh of the population of the country. But several causes began to operate to cause a decrease in his numbers, a decrease which had made considerable progress by the beginning of the Industrial Revolution. In the first place, land was more and more the basis of political power. The gentry began to increase their holdings by purchase from the smaller freeholders, as well as by enclosure of the waste, etc. At the same time business men who had made their fortunes bought land as a means of getting a foothold in county society or as a step towards political power. This movement was greatly facilitated by the introduction of the system of family settlements, following upon the disturbances of the Civil War, and the Restoration. So that what had been a counteracting tendency to the consolidation of lands was removed. In the second place, the increase of Parliamentary Enclosures, with consequent expense for the acts, and for the necessary hedging and ditching, etc., made for the disappearance of many of the smaller yeomen, who sold out their holdings to become tenant-farmers, or went into trade or industry. Then when the factory system of industry began to replace the domestic, the last support of the small freeholder was taken away, and he largely disappeared, finding his way into the ranks of the landless labourer, or the tenant farmer, or of industry, according to his abilities or tastes.

Tenant Farmers.—The next class in the early eighteenth-century village was the tenant farmer. This man was economically as well off perhaps as the average yeoman, but not being the owner of the land he worked, he was of a distinctly lower social grade. For example, he did not possess the franchise, as any forty-shilling freeholder did, although he might be and usually was farming land of much greater value than 40*s.* per annum. King estimated the number of tenant farmers to be about the same as that of the lesser freeholders, with an average income of about

£42 10s., out of which, however, he was able to save very little. It should be noted that amongst the tenant farmers we find the stronghold of the farmer-manufacturer. The father of Pococke's horse-boy, it will be remembered, was one of these in Rossendale,[1] and it was the presence of the manufacturing element in tenant farming that enabled the smallholder of land to maintain his position in districts like South Lancashire when he was rapidly disappearing elsewhere.

Those classes in the community who made their living partly or wholly as wage-earners were the cottagers, the squatters, and the farm servants. The cottagers were the tenants of cottages with anything up to 4 or 5 acres of ground surrounding them, and carrying with their tenancy certain rights on the village common, and perhaps on the waste as well. By means of the stock or poultry they could keep on the land and the common, and the produce they could raise on the land, they were able to make, with their wages as labourers, a fairly comfortable living. The squatters were labourers who had built cottages on the waste and remained by virtue of custom, or by the tacit consent of the landlord. They exercised privileges rather than rights over the waste, and in some respects were little inferior to the poorer cottagers, but their position was much more precarious, because they had no legal right to compensation in case of enclosure of the waste. They too eked out a living by working for the neighbouring farmers. The farm servants were those who lived on the farm with their master, and were wholly dependent on their labour. This class was drawn mostly from the cottagers and squatters' families and remained as servants on some farm until they married and secured a cottage of their own.

The classes mostly affected by the new movements of the eighteenth century were the yeomen, the tenant farmers, and the labourers, especially the cottagers and squatters. The first half of the century is considered to have been fatal to the small owner.[2] From the mass of contemporary opinion we may quote Postlethwayte: "With the yeomen, the

[1] See Pococke: *Camden Soc.*, I, 203–4. [2] Johnson, Lecture VII.

middling gentry of small estates seem hastening to annihilation."[1] He thus takes the disappearance of the yeoman as a well-known phenomenon of his time, and it is interesting to note that the cause he assigns is the heavy taxation. This is the more understandable when we know that in his whole work, his predominant interest is finance, and government control or encouragement of industry; and that he displays little interest in, or insight into, the social conditions and changes of his day. Even in the manufacturing districts, the yeoman was decreasing, although there was a tendency to smaller rather than larger land holdings. It would seem that in districts that remained agricultural, the yeoman disappeared because of the tendency to larger holdings of land, and the expense of enclosures, while in the manufacturing districts he was drawn into the industrial system, selling his land to get the necessary capital.[2]

Before the new movements the tenant farmers were mostly on comparatively small farms, from 20 to 50 acres being the usual size. The advertisement of demesne lands referred to above in Lancashire was for a holding of 52 acres, and may be considered as typical of the farms held by tenants.[3] Another was for a number of farms from £5 to £150, and as the rent was, in the neighbourhood of Manchester, about 20s. per acre at this time, the largest farm contemplated was 150 acres. The average farm mentioned by Young in 1770 was 287 acres, but as this included the great pasture farms of Northumberland, running into many thousands of acres, the general size in the arable districts would be much smaller. The tendency of the new movements was to increase the size of the farms. It is a general complaint by Young, that farmers persist in renting larger farms than their capital warrants, and he is supported by numerous other writers in the early part of the second half of the century.[4] Some of the yeomen, when they sold their holdings, rented much

[1] *Univ. Dict.*—Article, "Landed Interest," 1766.
[2] Aikin: *Hist. of Manch.*, pp. 43–4.
[3] See chap. II, section on Size of Farms.
[4] Young: *Northern Tour*, Vol. IV. Sums required to stock farms. *Museum Rusticum*, April, 1765. Reasons why farming is unprofitable. Mills, I, 255.

larger ones, and stocked them with the proceeds of the sale. So that along with the disappearance of the yeomanry, there went on what may be called the aggrandizement of the tenant farmer, causing him to approximate more closely to the large capitalistic farmer of modern times. But in forming our picture of Lancashire, it must be remembered that that county was an exception to the rule, and that tenant holdings, because of the growth of manufactures, became smaller rather than larger.

Farm Servants.—The greatest change, however, was that effected amongst the labouring classes. The position of the farm servants was much the same, except that as farms became larger, and hence the servants more numerous, there would be a greater social gulf between the farmer's family and his servants. But they were, after all, a temporary class, whose members were continually being recruited from the cottagers' and squatters' homes, and as constantly passing out again to become cottagers and labourers themselves. Farm servants were hired, usually at hiring fairs,[1] and the engagement was for a year, though no doubt shorter terms were often arranged for, especially when the Settlement Laws were taken seriously.[2] Apart from the fairs, labourers would go from farm to farm seeking work. In 1773, the wages of a servant of the first grade were £5 10*s.* 6*d.*,[3] and in 1761, at Walton, near Liverpool, the same sort of servant got £6 10*s.*[4] per annum. Servants of the second grade received £4 per annum in the assessment of 1738, but are not mentioned in Holt's list for 1761. In the same list, 1738, boys from 11 to 14 got £1 per annum, and from 14 to 18 they received £2 10*s.*, after which they would probably become servants of the second class. Servant maids were paid from £2 10*s.* to £3 per annum,

[1] See Patrick Macgill, *Children of the Dead End*, for an account of similar fairs in Ireland in nineteenth century. Thos. Hardy: *Tess of the D'Urbervilles*—for migrating labourers.

[2] A fulfilled contract of a year's service was one of the conditions which gave a labourer a legal settlement in a parish.

[3] Wages Assessment of the Warwickshire Quarter Sessions, 1738. See Appendix VIII.

[4] Holt: *Report to Board of Agriculture on Lancs.*, 1795. Comparison of Wages in 1791. Appendix IX also contains the Lancashire Wages Assessment of 1725.

according to experience. According to Holt's list these wages had increased by about 50 per cent. by 1795.

Cottagers.—The cottager made only part of his living by labouring for the neighbouring farmers. From them he received day wages or piece rates. He lived in a cottage to which was usually attached from 1 to 4 acres of ground. In addition to this the cottager usually had certain rights of pasturage over common land. This meant that he could keep a cow or two, which supplied milk, and butter, and perhaps some cheese for the family, and would also provide a calf for sale occasionally. The right to cut fuel on the waste made it possible to do cooking, and keep the cottage warmer in winter than if all fuel had to be bought. In addition were the vegetables, and other food produce from the small allotment of ground attached to the cottage, to add to the menu of the cottage table, and to help feed the cows through the winter. It is difficult to estimate the value of these things in money, but not so difficult to realize that they represented the difference between a bare subsistence and a rude plenty, and that they gave to the labourer's position a measure of independence. There was an incentive to industry, and possible rewards for ambitious spirits. Sufficient savings might be accumulated to enable the cottager to take a small farm, and thereby raise the social and economic level of his family.

Some extracts from the communications to the Board of Agriculture near the end of the century give a good picture of the industrious, and comparatively independent, contentment enjoyed by this class. Lord Winchilsea says:

"I believe there are from 70 to 80 labourers on my estate at Rutland who keep from one to four cows each, and I have always heard that they are hard-working and industrious men; they manage their land well, and always pay their rent." [1]

Barker of Lyndon, in the same county, bears testimony of a similar character. In a letter to the Earl of Winchilsea:

"Most of the poor people in this parish do keep cows, one, two, or three to a family, and a great advantage it is to them,

[1] *Communications to the Board of Agriculture*, Vol. I, p. 77.

so that we can hardly say that there are any industrious persons here who are really poor. . . . It has been the practice in this place time out of mind. We have a ground called the Cottagers' Close, wherein the poor at an easy rent keep 18 cows, and I suppose it was laid out for them at the enclosure of the lordship in 1624."

The same writer says that on his own estate the custom is of great antiquity, and he has "labourers, tenants in whose families the land they now occupy has been for near two hundred years, and they have been generally good labourers and received no relief from the parish." He speaks strongly of the disadvantage of the labourer having no land round his cottage, and attributes it not to enclosures, but to the greed of the farmers, who take every opportunity of confining the labourers to the cottages alone, so that the land may be added to the farms.[1] Another letter from Lord Brownlow regarding the parish of Belton says:

"The parish has had for a great length of time a cottagers' pasture of 159 acres. Tenants of nearly all small houses have the right for each house to turn on this from May Day to Lady Day, 2 horses or four cows, 16 barren sheep, or 12 ewes with lambs. 13 of the 35 stock the common themselves, the remainder rent to the farmers for enough to pay the rent of house and common. For the house, which has a piece for a garden, and a pig-stye plus the right of common, there is a rent of 35s. per annum with all repairs except glass.

"This rent has remained unchanged for 100 years or more."

This writer objects to letting land to labourers, because "they get too independent."[2] A third writer, Crutchley of Burleigh, also favours the system, because it really lowers wages, as the cottagers are more industrious and better fed, hence do more work for the same wage, and are more dependable.[3] He also says that the cottager enjoys comforts of life that a labourer seldom has it in his power to obtain, such as milk, butter, cheese and bacon; and where there are a number of the cottagers the rates

[1] *Communications to the Board of Agriculture*, Vol. I, p. 79. This was done by letting cottages with the farm, and when the farmer sublet the cottages he retained the land that had formerly gone with them.

[2] *Ibid.* [3] *Ibid.*

will be low. The custom has been established in his neighbourhood "from time immemorial."

Squatters.—These extracts bring out the main advantages which the cottager enjoyed. The squatters on the waste enjoyed similar advantages but not to the same extent, and as pointed out above, their tenure was much more precarious. What Gonner calls the "chance gains" from pasturage on commons, etc., made the difference between a rude comfort and grinding poverty. When the changes wrought by enclosures came, these advantages were completely swept away from the squatters, who had no legal right to them. Most of the cottagers lost them, some because they had not been able to formulate their rights in the proper manner. All they knew was that from time out of mind they had a right of pasture or "turbary" on the common or waste. Others who in strict legal justice received their share of the enclosure, found themselves unable to pay their share of the expenses involved in obtaining the act, fencing, ditching, road-making, and the payment of the commissioners. They were forced to sell their little allotment, and as the farmers in the neighbourhood were the only likely purchasers, the cottager was not likely to get an exorbitant price for it. All too often what he did get was dissipated at the village ale-house. The result of these changes was that, where enclosure was carried out, unless special consideration was given to these classes, they sank at once to the level of day labourers. They had to depend entirely on their wages, which were not sufficient to provide the comforts formerly produced from their land and common rights. The fuel, formerly theirs for the gathering, had now to be purchased, so that it was not possible to do so much cooking, nor to keep such a good fire in the evenings as formerly. Also, the tendency in a country of large farms was to sell little or no milk, butter, etc., locally, but to send large quantities to the market at once, and this made it more difficult for the labourer to purchase these things, even when he had the money to do so.

We have seen that in Lancashire, for various reasons, the small farm retained its hold, and so these evils would

not be present to any great extent. The presence of manufactures was responsible for reducing the social disturbance following enclosures, and in Lancashire this operated with greater force because of the rapid increase of population during the first fifty years of the century. In that time the population of Lancashire is estimated to have increased 78 per cent.,[1] and with the steadily increasing demand for labour that this indicates, there would have been little distress in Lancashire even if the amount of enclosure had been much greater than it was.

Agricultural Population.—In the century before 1770, there was a considerable change in the proportion of the population engaged in agriculture. Gregory King in 1688 had estimated that out of a population of 5½ millions, 4½ millions were occupied in farming, or nine-elevenths of the whole. In 1769, Arthur Young calculates that in a population of 6½ millions, only 2,800,000 were employed on the farms apart from the landlords.[2] This would be only about one-third of the population, and represented an actual as well as a comparative decrease. He reckons that on farms of 1 to 50 acres there were 20 souls per 100 acres arable, and 21 on farms of from 50 to 100 acres. On the farms up to 50 acres, averaging 41 acres each, he found there were from 1 to 5 servants, or labourers-resident on the farm, from 2 to 5 maids, sometimes a boy. Some sample farms chosen from Lancashire are as follows: 100 acres, 30 arable, had besides the farmer's family, 1 servant, 1 maid, and from 1 to 16 labourers, this latter no doubt according to the season of the year; 95 acres, 30 arable, had but 1 servant, 1 maid, and 1 labourer. The average of farms from 50 to 100 acres, working out at 79 acres, employed 1 servant, 1 to 1½ maids, 2 to 3 boys and 1 to 1½ labourers. A farm of 45 acres in the Lancaster district employed 1 man, 2 maids, and 1 labourer. In the Garstang district, a farm of 200 acres, 70 of which were

[1] Toynbee: *Industrial Revolution*, chap. II. Lancs. had the greatest increase of all the counties in England. West Yorks., the next district, had an increase of only 51 per cent.

[2] Young: *Northern Tour*, Vol. IV. Recapitulation.

arable, employed 2 men servants, 2 maids, 2 boys and 2 labourers. One of 90 acres near Bowles, between Prescot and Warrington, with 30 acres arable, employed 1 maid a man and a boy. A large farm of 400 acres, near Ormskirk in the Halsall district, with 100 acres arable, employed 4 men, 2 boys, 2 maids, and 2 labourers. This farm also had twenty horses and thirty cows, so was evidently a dairy farm. Still another on the southern border of the county between Warrington and Altringham, containing 200 acres, half of which was arable, kept 3 men, 2 maids, 2 boys and 2 labourers.[1] This leads to the averages of the north as detailed by Young.

Farms of up to 50 acres,			20¾	persons	per	100	acres	arable	land.
	50– 100	,,	21	,,	,,	,,	,,	,,	,,
	100– 200	,,	15	,,	,,	,,	,,	,,	,,
	200– 300	,,	19	,,	,,	,,	,,	,,	,,
	300– 400	,,	21	,,	,,	,,	,,	,,	,,
	400– 500	,,	15	,,	,,	,,	,,	,,	,,
	500– 700	,,	13	,,	,,	,,	,,	,,	,,
	700–1000	,,	19	,,	,,	,,	,,	,,	,,[2]
Above	1000	,,	14	,,	,,	,,	,,	,,	,,

It will thus be seen that the farms which supported the greatest population in proportion to their arable land were those up to 100 acres, and those between 300 and 400 acres. In proportion to their rental value the farms of more than 1,000 acres supported the greatest number, 20 per £100 rental.

For the average farm of 287 acres, about equally divided between grass and arable, he finds that there were employed 2 men servants, 1 or 2 maids, 1 boy and 3 labourers.[3] According to Young's criticisms, the practice of using six horses to a plough was still almost universal, and 2 men were required to manage it. In Lancashire the normal amount for stocking a farm was about three times the annual rent, though the general average for the north was £391 per £100 rent, which included £70 for furniture, £63 for implements, and £178 for stock. He considers that all the farms are understocked on these figures, due

[1] Young: *Northern Tour*, Vol. III, Letter 18.
[2] *Ibid.*, Vol. IV. [3] *Ibid.*, Vol. IV, Letter 36.

to the farmers' desire for the increased social prestige of a large farm, and a mistaken idea that the greater the acreage, the greater must be the net profit, even though it is poorly worked.[1] He also considers that 5 men and a boy are too few to cultivate a farm of 150 to 200 acres properly.[2] In a parish near Ormskirk there were 2,000 acres, 100 farmers, and 55 labourers, or one to every 36 acres of land.[3]

Houses.—The farm-houses were not large structures, to judge by a plan of one erected in 1790, and which is considered by the writer as typical. It contained a parlour and kitchen below stairs, and three lodging rooms, and the cheese-room above. Many of them as late as 1795 were still thatched, "though slate abounds and straw is dear."[4] Another writer in 1764 advocates the use of straw for fodder instead of for thatching, and recommends slate or tile for roofing the houses, while the outhouses can be thatched with heath or ling.[5] But some progress had already been made in the 'fifties of the century in the direction of better houses. Advertisements in the *Manchester Mercury* in 1753, inform prospective purchasers that on one farm of 8 acres the buildings are of brick, and slated. This farm was at Castleton; and another of 10 acres at Sutton, 3 miles from Prescot, has buildings of brick and lime slated.[6] In the more advanced parts of the country, such as Norfolk, a writer in 1752 says, that one of the results of the new methods and of enclosure has been that one farm is split into two, three, four, or more. "New farm-houses are erected, the old ones repaired, and nothing but brick houses are to be seen here."[7] One glaring defect of farm-houses in the north even near the end of the century was the small windows, so deep set in the walls that it gives a most disagreeable gloominess to the whole building.[8] Such were the houses in which the farmers, a hard-working,

[1] Young: *Northern Tour*, Vol. IV, Letter 36. [2] *Ibid.*
[3] Holt: *General Survey of Lancs.*, 1795. Section on Farm Buildings.
[4] Young: *Northern Tour*, Vol. IV, Letter 36.
[5] *Museum Rusticum*, V, p. 200 (1764): East Newton, Yorkshire.
[6] *Manchester Mercury*, Nov. 13 and May 29, 1753.
[7] *Gentleman's Magazine*, 1752. Letter on "Improvements."
[8] *Comm. to Board of Agriculture*, Vol. I, p. 6.

rather rough-mannered, but shrewd and persevering class of the community, lived. More progress had been made in the places where the clothing industry had been considerable. All the larger houses had two stories, many had a large room above for weaving, called the loom-shop, and external stair-cases to this room were frequent.[1] Equal progress can hardly be traced in the cottages used by the labourers. They were made with earthen walls, and had floors of earth except the floor of the loft which comprised the only upstairs most of them had.[2] The criticism quoted above of the windows in the farm-houses would apply with even greater force to the cottages.

Wages.—It has been said that

> " the reign of George II was probably the nearest approach to the Golden Age for the labouring classes. Necessaries of life were cheap and abundant; the population showed no rapid increase, but the standard of living improved." [3]

The improvement of arable lands had made more rapid progress than the increase of people, as is shown by the surplus available for export. According to a writer in 1765, the average price of wheat was £2 8*s.* 5½*d.* for the twenty-five years from 1688 to 1712, and from 1738 to 1762 it was £1 18*s.* 2½*d.*, a fall of about 21 per cent.[4] As the tendency of wages was to rise rather than fall, this represented a considerable rise in the standard of living of the labouring classes. There is a general consensus of opinion among contemporary writers that there was a great increase in the amount of wheaten bread consumed amongst the labourers.[5] The presence of other articles of food that were considered luxuries, in the diet of the poor, points in the same direction. Hasbach also agrees that the condition

[1] Heaton, *Yorkshire*, p. 289.
[2] *Comm. to Board of Agriculture*, I, 79.
[3] Lord Ernle (Prothero): *English Farming*, p. 262. Cf. Adam Smith, I, 90: " The progressive state is in reality the cheerful and the happy state to all the different orders of society; the stationary is dull; the declining melancholy." Also I, 86: " The real recompense of labour . . . has during the present century increased . . . in a still greater proportion than its money price."
[4] *Museum Rusticum*, Vol. VI, pp. 16–24.
[5] It is not true, however, that wheaten bread was the general food of the labouring classes at this time, as some writers allege.

of the labourers was comparatively comfortable in this period.[1]

It has been pointed out that the labourers fell into two classes; the farm servants hired for a long period, up to a year, and resident on their master's farm; and the day-labourers, who were the cottagers and the squatters. The position of the farm servants has been discussed. The wages of the labourers showed a steady rise during the early part of the century, totalling about the same increase as the decrease in the price of wheat in the same time.[2] In the parish of Walton, near Liverpool, labourers were receiving 10*d.* per day in 1761. According to the Lancashire assessment of wages in 1725,[3] a skilled husbandman was to receive as a maximum, 1*s.* per day during the summer, an ordinary labourer 10*d.* For the rest of the year the rates were 10*d.* and 9*d.* In 1761[4] a thatcher received 1*s.* per day, and the taylor, who evidently lived in the house of his employer, got 6*d.* per day with food. A few years later Young reckoned the board of a worker at 8*d.* per day, so that the wage would represent 1*s.* 2*d.* per day. Taking harvest as five weeks, hay-time as five weeks, and the winter as forty-one weeks, he estimates the wages of a labourer in Kabers at 10*s.* a week in haying and harvest, and 7*s.* the rest of the year. At Garstang the rates were 10*s.*, 9*s.* and 7*s.* respectively. At Ormskirk, 6*s.*, 5*s.* and 4*s.* At Altringham, 7*s.* 3*d.*, 6*s.* 6*d.* and 5*s.* were the prevailing rates.

This gives an average for the year of 6*s.* 4*d.* per week over that part of the county which he traversed. The general average for the north was 7*s.* 1*d.* per week, so that the labourers in Lancashire were not so well paid as those in other counties. The average house-rent paid by these classes he gives as £1 8*s.* 2*d.* per annum, the cost of their firing £1 3*s.* 11*d.*, so that they would have, if they worked the year round, £13 7*s.* 3*d.* for food and clothing, etc., for their families. Women, employed in

[1] Hasbach: *Eng. Agric. Lab.*, chap. I, sect. 4.
[2] Lord Ernle (Prothero): *English Farming*, p. 262.
[3] *V.C.H., Lancs.*, II, pp. 419–36.
[4] Holt: *Lancashire, General Survey.* See Appendix IX.

haying and harvest got from 4*s.* to 6*s.* 6*d.* per week, and about 4*s.* 6*d.* per week when employed at other times. These wages for women compared favourably with the averages for the rest of the country in the north, which amounted to 6*s.* 3*d.* in harvest, and 3*s.* at other times.[1] At the end of the 'sixties of the century, Lord Ernle estimates, the wages of the ordinary labourer were 7*s.* 6*d.* per week in the northern and north-eastern counties; 7*s.* 11*d.* in the south-eastern and Midland counties; 6*s.* 10*d.* in the west Midlands and south-western counties; 6*s.* 4*d.* in the north and north-western counties; 6*s.* to 6*s.* 6*d.* in Yorkshire; 6*s.* 6*d.* in Lancashire, and 6*s.* 6*d.* in Durham.[2] So it may be said that the general wage of the agricultural labourers on the eve of the Industrial Revolution was in the neighbourhood of 1*s.* a day, somewhat more in the eastern and Home counties, where however provisions were generally slightly dearer than in the districts more remote from the metropolis.[3]

Food.—In considering the food of the common people, the first thing to note is that the labourers of the north were generally better fed than those of the south. Provisions were generally cheaper and more abundant, and the labourer in the north had a greater variety of foods to choose from than his southern brother.[4] While there were points of difference in various districts, Lancashire may in respect to food be taken as presenting the features typical of the northern counties. Pig, cow, sheep, oats, and barley, with the addition of potatoes, formed the broad basis of sustenance for the people.[5] From the pig, they had bacon puddings, ham and salt meat; from the cow came the milk, cheese and butter, and the sheep furnished haggis and boiled meat. The introduction of the potato had a considerable effect on the diet, and helped to ameliorate the conditions of life for the rural and manufacturing population.

[1] Young: *Northern Tour.* Particulars gathered mostly from Vol. IV. See table quoted *infra*, App. IX.
[2] Lord Ernle (Prothero), cited above. App. IX. Agricultural Wages.
[3] See Appendices VIII and IX, for more detailed figures on wages.
[4] See Adam Smith, *Wealth of Nations*, I, pp. 83–4, for a description.
[5] *Lancs. and Ches. Antiq. Soc.*, Vol. XX, p. 77.

In spite of the statements of the writer quoted above, it is doubtful if the meats mentioned formed any considerable part of the working people's diet. Holt as late as 1795 says that "oats ground to meal is the food of the labouring classes, particularly in the north and east borders of the county." Eden gives the statement of an official at Lancaster, who says that "there was little cheese used in labourers' families."[1]

Oats were used in two main ways, as porridge, and as baked cakes or bread.

> "Water boiled and thickened with meal into porridge, and eaten with suet, or buttermilk, small beer sweetened with treacle or with treacle alone, was in many families both the breakfast and supper meal"

in the 'fifties of the century. This writer tells of three brothers who were accustomed to make a double portion of porridge on Sunday morning, and keep it warm in a bed, so as to have it for supper as well. They were men of landed property, but lived chiefly on the produce of their own land; they hated selling butter, and probably never tasted tea. They brewed their own ale, never used spirits; a couple of swine fed and slaughtered by themselves provided flesh meat for the year. As the last of these brothers died in 1792, their fare was probably a good example of the countryside earlier in the century.[2] Young had noticed in 1770 that there was too great a proportion of oats sown in the north, but he failed to realize that this was probably because the general food of the people was oats, and hence there would not be the demand for wheat. Holt at the end of the century is making the same complaint, with less excuse for missing the real reason. It was not till later than our period that with the gradual ascendancy and spread of tea at popular prices, porridge began to lose the important place it generally occupied as a time-honoured meal in the northern counties,[3] though there is no necessary causal connection between the two.

[1] Eden: *State of the Poor*, 1795, II, 309.
[2] Holt: *Report on Lancs.*, 1795. Footnote to p. 24.
[3] Chas. Roeder in *Lancs. and Ches. Antiq. Soc.*, cited above, p. 44.

Of the baked oat-cakes, the chief are the Havercake, the Bannock and the Jannock. The havercake was akin to the modern oat-cake of Scotland, being oval or round, flat ½ inch to 1 inch thick, and unleavened. This was prevalent more in the eastern parts, and throughout the eighteenth century the men of Rochdale prided themselves on the title of "havercake lads."[1]

The Bannock was a thicker oat-cake and unleavened. It was baked in the ember, and afterwards before being eaten, was reheated on a girdle. This cake was sometimes made of pease meal also. The most prevalent of the oat-cakes, however, in the north, and occurring in many parts of Lancashire, was the Jannock, king of oat-cakes. This was really a loaf of oaten broad, as a whole loaf weighed 9 lb. It was round, about 1 inch thick at the edges and from 3 inches to 4½ inches thick at the centre. It was no doubt this loaf Young was speaking of when he quotes the price of bread (oat) at ¾*d.* per lb. in 1770.[2] Tim Bobbin, a local poet of Lancashire in the middle of the century, speaks of a "tuppeny Jannock."[3] The local price round Bury in 1760 was 15 lb. for 1s.[4] The Jannock was not peculiar to Lancashire, but held its ground there longer than elsewhere, being common up to the beginning of the nineteenth century. It was still made in 1902 around Belford and Leigh, and was then being sold in Standish Gate, Wigan.[5]

In the table from Eden,[6] Lancashire is included in District IV with Chester, Derby, Notts, and Lincoln. Of the population of these counties, ·39 or almost two-fifths were living on oaten bread, ·27 on wheaten bread, and the remainder ·34 used barley or rye. A large proportion of the population of District IV, living on oat bread, was con-

[1] *Lancs. and Ches. Antiq. Soc.*, Vol. XX, cited above, p. 44.
[2] See Appendix IV, Table of Prices.
[3] Tim Bobbin: *The Lancashire Dialect*, 1750, p. 5.
[4] Roeder: *Lancs. and Ches. Antiq. Soc.*, Vol. XX. Notes on food and drink.
[5] *Ibid.*
[6] Eden: *State of the Poor*, I, 564. Applies to *circum* 1760. Quoted by Eden from *Tracts on the Corn Trade*, 1766, pp. 183–5. While the exact figures of population may be inaccurate, the proportions will be indicative of the comparative uses of the grains. See Appendix IX.

centrated in Lancashire, because when Young, a few years later, toured the county, he quotes wheaten bread only at Liverpool, and wheat and barley mixed at Altringham. The rest of the places quoted were oat bread, or oat and barley mixed.[1] In District V of the above table, which included the rest of the northern counties, about four or five per cent. used barley bread, and the remainder are almost equally divided amongst the users of wheat, rye, and oats. The wheaten bread used in Lancashire would probably be mostly in Liverpool, Manchester, and the homes of the upper and middle classes of the county, so that it is reasonable to conclude that the great masses of the labouring classes in the rural parts were users of oat bread, the wheaten loaf being a rare luxury rather than a regular article of diet. Pococke's horse-boy said that "oat-cake and buttermilk was their common food," and his father was one who paid £6 a year in rent. In the Filde district a writer says that "beans and rye bread was the food of the commonalty, wheat bread being rarely eaten except by the rich. Jannocks were eaten with zest by the hungry labourers."[2]

Milk was cheap and plentiful. Holt says that in 1761 sweet milk was a penny a quart at Walton, quite close to Liverpool, and in the country was probably no dearer than that. The prevalence of small farms would make it easy for those who had no cow of their own to secure a supply of milk from some neighbour willing to add to his income by selling part of the milk from his own cow. Buttermilk as a beverage, and as an adjunct to the porridge so commonly referred to, is another indication of the plentiful supply of milk in rural communities. Butter ranged from 5*d.* to 8*d.* per lb. in different localities. Cheese, put by Young at 3*d.* to 3½*d.* per lb. in 1769, was being sold in 1740 at 15*s.* to 17*s.* per cwt, new, or 23*s.* to 24*s.* when old, and hence drier and better cured.[3] This would mean that there had been comparatively little change in the retail price during those thirty years.

[1] See above, Eden: *State of the Poor*, I, 564.
[2] *History of Blackpool* (1837), Thornber, p. 83, referring to 80 years before writing.
[3] *Lancs. and Ches. Antiq. Soc.*, Vol. XX, p. 82.

The next important article of diet was potatoes. It has been stated above that by the middle of the century potatoes was a common crop in most parts of the county.[1] By the end of the century, they were in use in a variety of ways, and there is evidence that they were being largely used by the poorer people much earlier than that. In some districts they had not made much progress by 1760, but such were exceptional. For example, in the *Filde* district it was

> "esteemed opulence to plant half a bushel of potatoes . . . boiled parsnips and French beans were the principal vegetables, not of the cottager or the farmer only, but the gentry, even on gala days."[2]

But in 1758, on the Manchester market they were sold, at 9*d.* per bushel; and this indicates a very general use amongst the population at that time. A potato pie, probably the "hot-pot" served in Lancashire still, is enthusiastically described by Ben Brierly, as a dish that was well and favourably known. By the time that Eden wrote, they were used for every meal except breakfast, and Holt in a letter published in the Report of the Committee on the Cultivation and use of the Potato, in 1795, urges the extension of the Lancashire custom of eating potatoes with meat instead of bread. He attributes the large excess of bread consumption in the south as compared with the north in large measure to this custom. The potato affords two meals a day to many families of the labouring classes; and there are many families in the northern counties which never eat bread, except at tea. Besides being used with meat, they were often eaten with butter and buttermilk.[3]

Of meat foods, the haggis was popular, and is mentioned by Tim Bobbin in 1745. It was general and popular in Lancashire, and continued in the Filde district until the end of the century.[4] Mid-calf, or a dish made of the heart, liver, and lungs of a calf, was considered a great delicacy. A black pudding made of blood, suet, and oats shared

[1] See above, chap. I, sect. on Potatoes.
[2] Thornber: *History of Blackpool*, 1837, p. 83.
[3] *Report of Comm. on Cult. and Use of Potatoes*, p. 159 *et seq.* Holt: *Survey of Lancs.*, p. 14, footnote.
[4] *Lancs. and Ches. Antiq. Soc.*, Vol. XX, p. 60 *et seq.*

popularity with a white pudding, which was the same without the blood. Mention of the bacon puddings, ham and salt pork has been made. But it must be remembered that these and other meat dishes were occasional additions to the labourer's diet, on special occasions, or on Sundays, and were not part of his daily food. Pococke's horse-boy told the bishop that they had meat and pye-pudding on gala days ;[1] and no doubt it was only on the tables of the better-off cottagers that meat dishes would occur with any frequency.

Along with the meat foods it is well to mention the numerous soups of vegetables and sometimes of meat that characterized the north generally. Various kinds of broth were in frequent use. Contemporary observers frequently make mention of the superiority of the northern peasant over the southern in preparing a variety of dishes and soups. Seasonal dishes based on fruit were also common, such as berry tarts ; and roly-poly, or dog-in-a-blanket, as it was called in Derbyshire, is still known as the Lancashire roly-poly.

As to beverages, tea was finding its way through the county by the end of the 'sixties. At that time, Young says of the Burton district in the north of the county that all drink tea, as also those round Garstang, and in the south round Warrington and Altringham. In the Ormskirk district it was known but not generally used. As this statement occurs in connection with the poor rate particulars, it is reasonable to conclude that Young was referring to the poorer classes.[2] Later in the century, when there had been an increase of drinking among the labouring classes, Eden stated that the labourer of the south indulged daily in malt liquors ; but that in the north this was not the case. The general drink was whey, or milk and water, or a meagre small beer. He also stated that there was only one ale-house in the north for every three or four in the south.[3]

When this extensive variety of diet, and comparative

[1] *Camden Soc.*, Vol. I, pp. 203–4.
[2] *Northern Tour*, Vol. III, Letter 18.
[3] Eden : *State of the Poor*, Vol. I, p. 527.

moderation in alcoholic liquors, is compared with Eden's statement that the poor in the south of England live on dry bread and cheese, with malt liquors or tea as their beverage, it is easy to understand the comments so common at the time on the superior household economy of the northern peasant.[1] In partial explanation of this it must be remembered that fuel was scarcer and dearer in the south, so that cooking, for a labourer's family, was an expensive matter; and also that milk and butter remained easily obtainable in the north much longer than in the south. In addition, since the sums spent on liquors were smaller, larger sums were available in the north for the purchase of provisions. The chief advantages of the peasants of the north may be summed up as being—the use of oatmeal in a variety of ways, the use of potatoes, and the great variety of cheap and savoury soups, as well as greater skill in preparing a variety of dishes from the same ingredients.

As to quantity considered sufficient for a labourer, we may refer to two contemporary estimates. The first is a table of the weekly allowance to every man in the navy, with the cost, published in 1765.[2] 7 lb. bread, *7d.*; 7 gals. drink, *7d.*; 4 lb. beef, *8d.*; 2 lb. pork, *5d.*; 2 pints peas, $\frac{1}{2}d.$; 2 pints oatmeal, $\frac{3}{8}d.$; 6 oz. butter, $1\frac{1}{2}d.$; and 12 oz. cheese, $\frac{3}{4}d.$; making a total for the week of *2s.* $5\frac{1}{2}d.$ Physicians of the time were of the opinion that the allowance was all that any able working man could consume with health. But it is doubtful if any able working man in either north or south, unless a servant with some generous farmer, ever had the opportunity of making the experiment. The other estimate is made about 1766 by the writer of *Three Tracts on the Corn Trade.*[3] He says that in Lancashire a labourer consumes 9 lb. of oatmeal in a week, or

[1] After 1760. Hasbach, pp. 144–7. Rise in prices lowered standard of living, but in the north, even with a lower money wage, the standard of living remained higher. *Lancs. and Ches. Antiq. Soc.*, Vol. XX, p. 82. First reference to tea and coffee in Manchester is 1762. In 1749 tea in Manchester was *5s. 6d.* to *18s.* per lb., 10 per cent. under London market because brought in via Edinburgh and Leith (lower customs). Coffee, *4s.* to *7s.*; Chocolate, *4s.* to *4s. 6d.* per lb.

[2] *Museum Rusticum*, March, 1765.

[3] *Three Tracts on the Corn Trade* (Rylands Library, S.69.137/T.3.K.).

3 quarters 2 bushels of oats per annum, as 2 quarters of oats will seldom make 1 quarter of meal. The Scotch labourer, he says, consumes 4 quarters 7 bushels of oats per annum, and pitmen 2 quarters 5 bushels of rye per annum. The annual consumption of wheat is estimated for various sections of the people. Workhouse inmates, citizens and hospital inmates consume from 6 to 7 bushels per head; labourers, soldiers, and various classes of the French nation, 8 to 12 bushels; French porters, peasants, and eaters of new bread, 17 to 19 bushels; English shepherds, 19 bushels; and English pitmen, 20 bushels.

Clothing was entirely homespun and home-made in the north, and remained so until near the end of the century. By that time in the Midlands and the south, the clothing was mostly purchased clothing or London cast-offs; but

"in the north almost every article of dress worn by farmers, mechanics, and labourers is manufactured at home, hats and shoes excepted . . . there are many respectable persons at this day who never wore a bought pair of stockings, coat, nor waistcoat in their lives; and within these twenty years a coat bought at a shop was considered a mark of extravagance, if the buyer was not possessed of an independent fortune.[1] Ironed clogs, which are cheaper, more durable, and more wholesome (*sic*) than shoes, are very generally worn by the labouring people." [2]

Disturbing Forces.—But underneath this real prosperity and the abundance of food supplies which characterized the first half of the century two disturbing forces were at work. The first was the changes in the methods of agriculture with their accompaniment, enclosures, as a symptom of the tendency to consolidate the farms into larger ones. The second was the influence of growing towns, which made a difference to the markets, and so to the production of different communities. The result was that the old distribution of agricultural population was not suited to the new conditions. More labour was required in some places, as where enclosures had increased

[1] Eden, I, pp. 554–5.
[2] *Ibid.*, II, 309. Pococke also mentions the shoes with wooden soles worn by the people in these districts. *Camden Soc.*, Vol. I.

the area under tillage, or where the proximity of a growing town, such as Liverpool or Manchester, made the small dairy or produce farm a profitable venture. Less was required in other places, as where enclosure was leading to pasture instead of tillage. Agricultural labour was not as a rule mobile enough to meet the new conditions, and the result was a great deal of social suffering. Enclosures also meant a real depression in the social and economic status of many cottagers and squatters. Those who by the aid of their little holding, and the common rights, had just been able to maintain themselves, sank under the new conditions into a state of at least partial dependence on the rates. A recent writer expresses the opinion that "many of the arguments in favour of enclosures betray an excessive confidence in the mobility of agricultural labour, and its adaptability to industry." The weaker elements in a parish that had been enclosed were often left stranded, with the result that the rate of wages was depressed.[1] He might have added that the Poor Rate was often raised by their presence.

This immobility of labour was due in the main to three causes. The first was the natural clinging to one place so often seen in the attitude of the poor, especially of the weaker elements amongst them. The more self-reliant would launch out on a new venture while their weaker brethren remained behind and suffered. Then there were the difficulties of removals over the wretched roads of the period, which would prevent many from attempting the unknown districts. But, though these causes were no doubt operating, the great hindrance to the redistribution of labour to meet the new conditions was to be found in the Settlement Laws. This law, passed in 1662 to prevent the indigent poor from flocking into districts where they would be best treated, was modified in 1691 to permit a settlement to be obtained in a parish other than that where one had been born. This new settlement was obtained, (*a*) by paying a year's taxes in the new parish, (*b*) by serving a parish office for a year, (*c*) by fulfilling a year's contract

[1] Dobbs: *Education and Social Movements*, p. 130.

of labour with a resident of the parish, or (*d*) by renting a land-holding of £10 annual value. In 1696 certificates became allowable, and with this certificate a labourer could go where he liked and could not be sent back to his own parish unless he actually became a pauper. This was the condition of affairs in this respect during the first half of the century; and constables' accounts are full of the expenses of returning poor to their respective parishes, while Sessions reports are full of appeals for or against orders of removal. There can be little question that when the new movements of the eighteenth century began to gather momentum these regulations "acted as an effectual check on migration, and prevented the labourer from carrying his labour where it was wanted."[1] Not only were the rates burdened with the cost of returning poor to their parishes, but the poor laboured under the constant uncertainty as to whether they were to be allowed to remain in a new parish. Young, when he made up the tables of wages in the Appendix to this work, was puzzled to account for the variations which did not at all follow the prices of provisions. Probably one reason was the natural variation with the distance from manufacturing centres, where the demand for labour would tend to raise the wages of all labour; but the influence of the immobility caused by the Settlement Laws was also a factor. The Earl of Hillsboro, writing in 1753, proposed to destroy the Settlement Laws, as they were a hindrance in many ways.[2]

The eighteenth century is marked by a great increase in the cost of caring for the poor, and while this was partly due to the growth of benevolent sentiment, and partly to

[1] Curtler: *Short Hist. of English Agriculture*, pp. 157–8. Also Eden, *State of the Poor*, I, 296, quotes from an essay by a writer named Hay written in 1735, and republished in 1751. Hay reprobated the system which, he says, abridges a poor man's liberty on a suggestion that he may become chargeable; the defect is that it is optional with the parish officers to grant the certificate, whereas they ought to be compelled to do it; or better still, every poor man ought to be put on the footing of a certificate man till he does become chargeable. Eden disagrees with Adam Smith when he says "there is scarce a poor man in England of forty years of age who has not in some part of his life felt himself cruelly oppressed by Settlement Law," but brings no evidence to confute these writers.

[2] Eden: *State of the Poor*, I, 318.

the growth of manufacturing centres with their periods of unemployment, yet even such an advocate as Gonner admits that "in many districts such distress was caused that there had to be much more expended in Poor Rate."[1] Eden calculates the amount of money raised for the support of the poor towards the end of the seventeenth century. When this is worked out, Lancashire was paying at that time 6·1*d.* per head of population.[2]

Young in 1770 calculates the population of the farming districts at about fourteen per £100 rent. This is, of course, only a rough approximation to the facts, but will serve to indicate the change in the course of the first sixty or seventy years of the century, in the absence of more exact data. Poor Rates in the purely agricultural districts such as Kabers, Cockeram and Ormskirk were from 3*d.* to 6*d.* in the pound, averaging slightly over 4*d.* for the places he mentioned. This would represent an expenditure on the poor of not less than 28*d.* per head of population. Even this rough calculation shows how greatly the Poor Rates had increased before the dawn of the Industrial Revolution. In districts that were partly urban, the increase was still greater. For example, the rate in Liverpool in Young's time was 1*s.* in the £, and round Warrington and Altringham was from 1*s.* 6*d.* to 2*s.* 6*d.* in the pound.[3] The expenditure on the poor in Lancaster rose from £94 19*s.* 8*d.* in 1736 to £499 in 1765, when the town was on the decline rather than growing.[4]

[1] Gonner: *Common Land and Enclosures*, Book III, chap. V, sect. B2.

[2] Eden, I, 230. This rate of 6*s.* 1*d.* per head was the lowest in the kingdom at that time. Generally speaking, the northern counties were all much lower than those in the south. The six northern counties all occur among the lowest nine counties of England. Wales, considered as a district, is thirteenth.

[3] Young: *Northern Tour*, Vol. III, Letter 18.

[4] Eden, II, 309 *et seq.* For fuller discussion on this question of pauperism, see Part II, chap. V, of the present work.

PART II

INDUSTRY AND COMMERCE

CHAPTER V

INTRODUCTORY
DISTRIBUTION OF INDUSTRY AND POPULATION

PROBABLY no part of England was affected by the Revolution to so great an extent as the industrial part of Lancashire. The growth of Liverpool during the eighteenth and nineteenth centuries, the rise of the cotton area, centring in the town of Manchester, and the development of the coal and iron areas of the county, made it in the course of less than a century and a half the largest centre of population outside the metropolitan area. The story of that transformation belongs to the history of the Industrial Revolution and the long social struggle in which labour has sought to emancipate itself from the fetters forged by the *laissez-faire* theories of the later eighteenth and a great part of the nineteenth century. The present concern, however, is to show to what extent the ground was prepared up to 1760 for the tremendous growth that marks the next hundred years.

Modern Lancashire is no doubt the product of the changes which occurred between 1760 and 1860, but evidence had been given that before the former date the southern part of the county was destined to fill a large place in the industrial and commercial life of the county, even if there had been no radical change in the technique or economic structure of industry and commerce. The population of the county was 166,200 in 1700, but this had by 1750 reached 297,400,

an increase of nearly 79 per cent.[1] The increase until 1801 was only 125 per cent., and this half-century included at least a decade of increasing population under the old system. Moreover, this increase of population took place almost entirely in the southern and eastern parts of the county; so it represents a very considerable advance in industry and trade, although there were no notable improvements in the producing power of industry. This will be seen when the county is considered more in detail.

Industry—South and East Lancs.—The bulk of the industry of Lancashire, then as now, was concentrated in the hundreds of Blackburn, Salford, and West Derby. That portion in West Derby was south of a line drawn from Liverpool to Wigan. The main industries of the county are those connected with wool, cotton, coal and iron. The mineral wealth of Lancashire was becoming well known by the middle of the century.

> "Here is plenty of timber, coal and cannel coal pits, with mines of lead, iron, and copper, antimony, blacklead, lapis calaminaris, besides alum, brimstone and green vitriol found in some of the coal pits." [2]

In these words a writer in 1756 sums up the mineral resources of the county.

Coal.—The coal area was divided into two parts. The northern section was that narrow strip extending from Blackburn through Burnley up to Colne in the hills. The other and more important is broader at the western end, where it extends from south of Prescot to the north-western corner of the field in the neighbourhood of Chorley; from this broad section the field gradually narrows to the east, including Wigan, Bolton, Bury, and extending as far as Rochdale. Cannel coal was mostly found in the neighbourhood of Wigan, and the ordinary coal over the whole area.

Metals.—Some of the iron was smelted near Garstang, east of the road from Preston to Lancaster, "on account of the great plenty of wood" in the district.[3] The principal

[1] Butterworth: *Statistical Sketch of Lancashire*, 1841.
[2] Postlethwayte: *Universal Dictionary*.—Article, "Lancashire."
[3] Pococke: *Camden Soc.*, I, p. 13.

iron mines were in the Furness district, south of the Abbey of Furness. About 1750, there were seven different iron mines in that area and we are told that there were three main kinds of ore. The finest was the kidney ore, the second was found in shoots, and the third sort is of a bluish hue, but all are of a red colour.[1] Besides the iron and coal produced in the county there were copper mines at Coniston, and lead at Anglezark, though the lead was not important.[2] There was a copper-smelting works at Warrington where ore from Cornwall was smelted because of the proximity of the coal-fields. When finished and cast into pigs it was sent to Holywell to be beaten into plates, or to Staffordshire for the brass manufactories there. The slag or dross was cast into building and paving blocks.[3] There were important potteries in Liverpool, eight being the number given by Pococke, who says the produce was reckoned among the best in England.

The earliest seat of the metal industries in Lancashire was in Wigan, where there were pewterers and braziers from very early times. A bell industry had flourished there in the seventeenth century, but was extinct before the Industrial Revolution.[4] There was an extensive pin manufactory at Warrington, which in Young's time employed between two and three hundred children.[5] The extent of the industry is shown by the fact that wills of pin-makers are registered in 1700, 1712, 1718, 1726, 1735, 1738, 1744, 1747, 1756, and three wills during the 'seventies.[6] Another metal industry of importance in Lancashire was that of watch-making. This was centred mostly in Liverpool and Prescot, although it existed also at West Derby, Wavertree, Ormskirk, and Warrington. To judge from the number of wills of watchmakers and watch-tool makers during the first twenty years of the second half of the century, it must have been a flourishing industry in the 'fifties.[7] It

[1] Pococke: *Camden Soc.*, I, p. 14.
[2] Baines: *Lancs. and Cheshire*, II, 63.
[3] Pococke: *Camden Soc.*, I, p. 9.
[4] *V.C.H.*, II, 365.
[5] *Northern Tour*, III, 165.
[6] *Lancs. and Ches. Rec. Soc.*, IV, Index to Wills at Chester.
[7] *V.C.H., Lancashire*, II, 366–7.

was during our period also that the engineering trade arose in Lancashire. Three millwrights who were believed to have been machine engineers died at Manchester, and one at Bury, between 1736 and 1762. The early foundries were mostly at Liverpool, where the wills of the owners appear in the last quarter of the century. It would seem that the development of this industry took place about the end of our period.

Potteries.—It has been mentioned that there were potteries in Liverpool about 1750. This industry, now confined in Lancashire to such coarse products as sewage piping and chimney pots, was in the eighteenth century a flourishing industry in the south-west of the county, mostly in Liverpool.[1] When Young visited Liverpool in 1769 the porcelain workers were receiving 7*s.* to 9*s.* per week, a very good wage for artisans at that time.[2] In 1756 a Liverpool advertisement says that a certain firm was making all sorts of sugar moulds and drips, chimney moulds, large jars for water, black mugs, crucibles and melting pots. The records of wills show that the Liverpool potters had rivals at Rainford, Bickerstaffe, Windle, Eccleston, Sutton, Whiston, and a number at Prescot, where six wills of potters were registered at Chester between 1734 and 1768.

Glass.—The same authority informs us that glass-making was followed to some extent. Followers of this trade were located at Liverpool, Sutton, Eccleston, and Prescot, the Prescot one being closed about 1750. Reference is also made in the *Manchester Mercury* of May 7, 1754, to the opening of a new glass works at Leigh.

Paper.—An industry not usually associated with the first half of the eighteenth century in Lancashire is that of paper-making. Baines ascribes the introduction of paper and sail-cloth manufacture, as well as that of silk, to the refugee Protestants from France and Germany.[3] The first

[1] Enfield: *Essay toward the History of Liverpool*, 1774. He mentions porcelain, but says that about 1770 it began to decline owing to the competition from Staffordshire.
[2] *V.C.H., Lancashire*, II, 403–6.
[3] Baines: *Lancs. and Cheshire*, II, 62.

mill was established about 1674 by the Cromptons near Bolton. The will of a paper-maker named Warburton occurs at Heap, near Heywood, in 1721. Wills of the Cromptons occur at Farnworth in 1737, and at Little and Great Lever in 1739 and 1760, while that of another paper-maker named Grundy occurs at Little Lever in 1767. Later wills of paper-makers are at Stretford and Manchester.[1] These names would seem to dispose effectually of Baines' theory that the industry was brought by the French, unless, of course, they brought only their secrets, and worked for English masters.

Chemical Industry.—The chemical industries were represented by a small copperas plant at Wigan in the 'fifties of the century, and by the development of soap works and bleaching works, as subsidiary industries to the cloth trade. The soap-making probably commenced about the end of the seventeenth century, as there are wills of soap-makers recorded from Ormskirk in 1709, Manchester in 1724 and 1751, while they are of later development at Chorley and Liverpool.

In 1773 there were five soap-boilers and chandlers at Manchester. After the Industrial Revolution this industry gradually passed to Liverpool.[2] The record of wills would indicate that the bleaching industry began in the last quarter of the seventeenth century.[3] They were seldom found in the town of Manchester itself, but were scattered round it in the smaller places. In 1772, the distribution of crofters or whitsters, as they were called, is given by a recent writer.[4] There were 78 altogether in the Manchester area; of these 48 were east of the road running north from Northenden through Manchester to a point somewhat north of Blackley, where the road swings north-eastward to Rochdale. Twelve were located at Newton, just east of Manchester, and 8 at Blackley, with 6 at Levenshulme. There were 10 at Pendleton, just west of Man-

[1] *V.C.H., Lancs.*, II, 403–6.
[2] *Ibid.*, II, 402.
[3] *Ibid.*, II, 389. Earliest wills were from Gorton in 1690, Manchester 1693, Prestwich 1694, and Crosslane 1699.
[4] Daniels: *Early Eng. Cotton Ind.*, p. 70 and plan.

chester, and 8 in the vicinity of Bolton, and 4 at Prestwich. The remainder were in small numbers in the villages included in the above areas.

Cottons.—This area round Manchester, and in the town itself, was the main textile area of the county. According to the writer quoted above, there were 106 men engaged in the fustian manufacture, 64 in the making of checks, 49 making the Manchester small wares, and 50 making silks and linens. These figures include a few dyers and printers, as well as some finishers, or drapers of woollen goods, 26 yarn and cotton merchants, and 60 engaged in miscellaneous trades such as hatters, velvet and cloth dressers, and others making various articles necessary in the cloth trade. A list of country tradesmen with warehouses in Manchester shows that there were 77 fustian manufacturers in the area outside of Manchester, 21 of whom were in Bolton; there were 26 check manufacturers, and 12 miscellaneous, such as yarn merchants, cotton merchants and woollen and linen merchants.[1]

Woollens.—The woollen manufacture was chiefly confined to the district lying on the eastern borders of the county, from Rochdale as far north as Colne and Clitheroe. This district was really part of the clothing area of the West Riding of Yorkshire, and part of Rochdale parish was in that county. It will be remembered that one of the earliest roads turnpiked in Lancashire was the road from Rochdale to Halifax, a silent witness to the connection Rochdale had with the great woollen areas of the West Riding.[2] There was little manufacture for outside sale north of the upper reaches of the Ribble. Defoe remarks of Preston, that it is pretty full of people, "but not like Liverpool or Manchester, for we now come beyond the trading part of the county."[3] The only industry of note in the north of the county was the mining of iron in the Furness district and copper near Coniston.[4]

[1] First Manchester Directory, 1772. Quoted by Daniels, op. cit., pp. 67–9.
[2] See sketch of turnpiked roads, chap. III, Part I.
[3] Defoe: *Tour*, III, 284 (Ed. 1769).
[4] Postlethwayte: *Univ. Dict.*—Article, "Lancashire."

Commerce.—The main commercial centre was Liverpool. In 1776 Postlethwayte speaks of the rapid growth of Liverpool, which was then the most flourishing seaport in these parts,

"pretending to rival if not to excel Bristol, its customs being increased eight or tenfold within these forty years past. The inhabitants are universally merchants, and, notwithstanding their out-of-the-way situation, drive an incredible trade with great success and with very large stocks to all the northern parts of the world, so that there is no trade but that to Turkey, Greenland and the East Indies in which they are not concerned." [1]

Liverpool's share in the slave trade began in 1702,[2] though the Africa trade was not officially free for thirty years more. About 1764, 74 vessels cleared from Liverpool for Africa with a total tonnage of 8,178.[3] Until recently it was assumed that the cotton trade of Liverpool began in the 'fifties,[4] but recent researches show that ships sailing in 1701 were specially instructed to bring home cotton, which they did. In 1735 Liverpool merchants interested in the cotton trade present a petition to the House of Commons regarding the interpretation of the Cotton Import Act of 1721. One of them, a Mr. Hardman, claimed that his monthly sales of cotton had averaged 20,000 lb. for several years. In Mr. Dumbell's words, "it seems safe to assume that by 1756 the trade of Liverpool in cotton was of fair standing."[5] In 1752 there were 220 ships owned in Liverpool, 106 of which were engaged in the trade to the West Indies and America.[6] Postlethwayte remarks that on the occasion of his visit in 1764 there were lying in the harbour at Liverpool

"81 ships, 27 snows, 67 brigs, 6 schooners, 3 ketches, 141 sloops, and only one ship and four brigs sailed, which reduced the number to 351 vessels lying in the harbour at the same

[1] Postlethwayte: *Univ. Dict.*—Article, "Lancashire."
[2] Dumbell: *Economic Journal*, June, 1924 (based on unpublished Norris Papers).
[3] Aikin: *Descr. of Manchester*, 1795, pp. 364–5.
[4] *Williamson's Advertiser*, May and June, 1756.
[5] *Economic Journal*, Sept., 1923. Organization of the Cotton Market in the Eighteenth Century.
[6] Liverpool Memorandum Book, 1753.

time, an instance not to be equalled by any port belonging to Great Britain except the mother port of London, especially when we consider that none of the merchant ships were accidentally forced into the harbour by contrary winds." [1]

Aikin also emphasized the inland trade arising from Liverpool's import of foreign goods, the share of the Irish trade which it enjoys, taking most of the northern while Bristol takes the southern, and the shipping of salt from the Cheshire salt works, and the cheese from the same county. All these go to show the importance of Liverpool before the opening of the Industrial Revolution. This was due in some measure to the gradual filling of the mouth of the Dee with sand so that Chester lost her old importance as one of the leading ports of the kingdom, and partly to the growing industrial importance of Southern Lancashire.

Warrington was also of some commercial importance, besides the trade caused by the manufactures of copper, pins, and sailcloth established there. Pococke says that this town was "chiefly supported by being a great thoroughfare, and by the merchandizes that are brought to it from Liverpool in large flat-bottomed boats." [2] After the improvement of the Mersey from Runcorn up to Warrington about 1694, the river trade increased, so that half the goods carried between Liverpool and Warrington, which was, of course, the point where the Liverpool Inland trade joined the route to London, went by water.[3] Manchester, as the centre of the cotton and fustian manufactures, was a close second to Liverpool in commercial importance; and we read of the markets of Bolton and Rochdale, where cloth was bought from the makers by dealers who traded with it all over the country. "Manchester men" were prominent figures in the markets and fairs of importance in the kingdom, through all our period and for some time afterwards. The only flicker of commercial importance enjoyed by the county-town was during the first half of the eighteenth century. In Blome's Survey in 1673, Lancaster is passed with the comment that there is not much trade here.

[1] *Universal Dictionary of Trade and Commerce.*—Article, "Lancashire."
[2] Pococke: *Camden Soc.*, Vol. I, p. 9.
[3] Baines: *Lancs. and Ches., Past and Present*, II, 82.

In 1700 Dr. Leigh speaks of the trade "that is now blooming at Lancaster," a trade that was concerned with America and the West Indies. From Lancaster was exported hardware and woollens, while it was a point of import for sugars and tobacco. But its period of prosperity was brief, and it soon gave way before the rapid progress of South Lancashire, partly because the country round about was too sparsely settled to make a good market for imports, and partly because the port could only accommodate ships of inconsiderable burthen.[1]

Inland Routes—Land.—One of the principal checks to increase of trade in England was the expensive inland transport. The usual charge for the conveyance of goods between Lancashire and London was from 100*s.* per ton up to nearly double that.[2] Obviously only those goods which had a high value in proportion to their bulk could be carried with profit at these rates. All heavy goods were carried as much as possible by sea; but this method was liable to frequent interruption in time of war. When the wars with France between 1685 and 1713 made the coasting trade very precarious, merchants began to turn their attention to the roads, but little progress was made before the first quarter of the eighteenth century was passed. The principal land route through Lancashire was the north and south road from London to Scotland. It entered the county at Warrington and, passing by way of Wigan, Preston, and Lancaster, left it near Burton in the north.

This was one of the two main routes from the south to Scotland. The Kendal carriers mentioned by Pococke sent part of their pack-trains by Lancashire and part of them by Yorkshire. Wagons were used as far north as Wigan, returning laden with coal, but north of Wigan

"nearly all the trade was carried on either by strings of pack-horses or by carts. Kendal was the principal pack-horse station on this route. No paved road passable for coach or carriage existed between Warrington and Liverpool." [3]

[1] Pococke: *Camden Soc.*, I; also Defoe: *Tour*, III, 285–9 (Ed. 1762).

[2] Baines: cited above, II, pp. 46, 80. Liverpool to Manchester 40*s.* per ton. The usual charge was 1*s.* per ton per mile carried, a prohibitive charge.

[3] Baines: *Lancs. and Ches., Past and Present*, II, 66, Roads at 1700.

Such was the state of the main road of the county at the opening of the eighteenth century. Matters were somewhat improved by the middle of the century. But in 1756 a postmaster in Liverpool is advertising that he has "two good double horses on the road for the convenience of ladies travelling between Liverpool and Lancaster."[1] These were horses with pillions, so that they each carried two ladies. It was not till after 1727 that a coach line began to run to Liverpool, and then it was only a heavy coach-wagon which took ten or eleven days to do the journey to London. Liverpool was connected with this main north and south route by a road to Prescot, one of the earliest roads to be turnpiked in the county, the Act being secured in 1725, a year before the Act for improving the southern section of the road from Warrington north to Lancaster and Burton.[2] The other important route was that connecting Manchester and the surrounding area with the clothing districts of Yorkshire. The connecting link was the ancient road over Blackstone Edge from Rochdale to Halifax, and this was turnpiked in 1734. In the 'fifties this was one of the transport routes to London, because it was connected with Hull, and part of the way was by water. A subsidiary route was that from the north-eastern part of the county into Yorkshire and linking up the Blackburn and Colne district with the woollen cloth areas.

Water.—The main feature of the first half of the century is not the improvements on roads, but the development of inland water routes; the cost of transport intimated above at a shilling per mile per ton was an effective check on inland trade. Cheaper means, and more effective means, must be designed; for example, in 1701, hogsheads of tobacco had to be broken up at Liverpool and made up into canvas packs for pack-horses for the journey to the eastern counties.[3] The obvious improvement was the navigable streams. The Mersey was improved in 1694 up as far as Warrington, but the rest of the way to Manchester

[1] Baines, II, 50.
[2] *Lancs. and Ches. Antiq. Soc.*, Vol. X, App. II. [3] Baines, II, 83.

was blocked by weirs for fishing. As soon as the benefit of the improvement as far as Warrington was seen, an agitation was begun to have the river made navigable all the way to Manchester. In 1720 an Act was finally secured for "improving the Mersey, Irwell, Douglas and Weaver rivers," passing through Parliament "in the midst of a multitude of bubbles, most of which burst and were forgotten in a few months, except by their unfortunate dupes."[1] This improvement, owing to the small amount of capital available for public works, and the lack of experience in co-operating in such undertakings, was not complete till nearly 1740, but when it was finished it almost at once reduced the cost of carriage between Manchester and Liverpool from 40*s.* per ton to from 10*s.* to 12*s.* Within the next thirty years after the peace of 1713, Baines asserts, all the rivers in Lancashire and Cheshire that were capable of being improved were rendered navigable and the cost of carriage was reduced to a quarter of what it had been.[2] The Act of 1720 provided for the improving of the Weaver and the Douglas, as well as the main route up the Mersey. The Weaver navigation provided water transport for the salt produced in Cheshire, and for the coal needed as fuel in the manufacture. The Douglas navigation tapped the Wigan coal area, and although it had the disadvantage of reaching the sea where there was neither harbour nor town (in the Ribble some miles from Preston), yet it so reduced the carriage of coal from the Wigan area that it was used till the Leeds-Liverpool canal was constructed at the end of the century. This improvement also proved the beginning of the prosperity of Preston. In 1755 the Sankey canal, as it was called, was begun, and this tapped the coal area round St. Helens. So great was the improvement effected that on its completion there was an auction of the pack-horses formerly used to carry the coal to the Mersey.[3] The Sankey canal is notable because it is the first instance in England, according to Baines, of a truly artificial canal;

[1] Baines, II, 85.
[2] *Ibid.*, II, 81.
[3] *Ibid.*, II, 89.

that is to say, one which was not merely the improvement of the course of a stream.

In 1737 the canal on the Worsley brook was begun, and is called by Aikin the parent of the Duke of Bridgwater's canal.[1] In 1758–9 was begun the canal from Worsley to Salford, and from Worsley across the Irwell to Manchester, through the township of Stretford. In 1761 was commenced the larger undertaking, the canal through Cheshire parallel to the Mersey, a distance of 29 miles. This reduced the transport charges again and made them 6*s*. per ton as against 40*s*. up till nearly 1740.[2] Another project initiated in the 'fifties, but not carried through till the 'seventies, was that of the Grand Trunk canal through Chester and Staffordshire to join the Weaver and the Trent. This is mentioned here because the first surveys were made on behalf of the corporation of Liverpool with a view to getting connection between that town and Hull.[3]

Trade Channels.—Enough has been said to show that the main channels of trade on the eve of the Industrial Revolution were the great road crossing the county on the way to Scotland, the traffic between Liverpool and Manchester and intermediate towns, and the connection between the industrial area of Lancashire and the clothing area of Yorkshire and the ports of the east coast, notably Hull. Lancashire was not so vitally interested in the land route to London because of the growing importance of Liverpool as a seaport and the easy sea-carriage to the metropolitan market—the traffic by flat-bottomed boats up the Mersey to Warrington may furnish some explanation of the very late improvement of the road from Warrington to Liverpool, for although the portion to Prescot was turnpiked as early as 1725 the remaining portion was not improved till 1752.[4]

Population.—It has been noted that the population of the county increased from 166,200 about 1700 to 297,400

[1] Aikin: *Descr. of Manchester*, 1795. Much of the information in the paragraph is based jointly on Aikin and Baines.
[2] Aikin, see above.
[3] Aikin: *Descr. of Manchester*, p. 117.
[4] *Lancs. and Ches. Antiq. Soc.*, Vol. X, App. II.

in 1750. The bulk of this increase was concentrated in the commercial and industrial area of South Lancashire. The growth of Manchester and Liverpool were matters of note to travellers throughout the century. Liverpool in 1565 had only 138 cottagers and householders, and it was not till 1699 that an Act was passed separating Liverpool from the rural parish of Walton and erecting it into a new parish.[1] The following year its population is estimated to have been 5,714. The growth during the next seventy years is best seen in a table from an early history of Liverpool written in 1774.[2] In this table the original writer gives the population as :—

		Per annum.	In 10 years.
1700	5,714		
1710	8,168	Incr. 245,	or 42 per cent.
1720	10,446	,, 227	,, 28 ,, ,,
1730	12,074	,, 162	,, 15½ ,, ,,
1740	18,086	,, 601	,, 50 ,, ,,
1750	22,099	,, 401	,, 22 ,, ,,
1760	25,787	,, 368	,, 16 ,, ,,
1770	34,004	,, 822	,, 32 ,, ,,

The greatest numerical growth was in the last decade quoted, but the greatest percentage increase was in the last ten or eleven years of Walpole's long peace, when the town increased 50 per cent. in ten years. In the period up to 1760 there is an increase of more than 350 per cent., a remarkable increase for those days, though it would not be notable to-day, unless it occurred in some already large city.

Manchester.—The growth of Manchester had not been great from the latter part of the sixteenth century till the beginning of the eighteenth, scarcely doubling in that time. A record of the burials in the parish shows an average of 184 per annum from 1580 to 1587, and in the years from 1720 to 1727 this was only 359. An account of the inhabitants in 1717 puts the total at about 8,000, but from that time the increase was rapid. In 1757, on the occasion of a Peti-

[1] Enfield: *Essay toward the History of Liverpool*, 1774.

[2] Enfield, p. 28. These figures are accepted by Aikin, except those of 1700, which he makes under 5,000. In that case the percentage increases would be 400 instead of 350.

tion to Parliament to be relieved from the duty of having all corn ground at the school mills, both sides to the controversy made an enumeration of the population and were within a thousand of each other. The estimate accepted by both Percival and Aikin was 19,839.

By 1773 the town and parish of Manchester and Salford had a population of 42,927, or the towns alone of 27,246.[1] Although this is not so great an increase as that of Liverpool in the same time, yet it is a considerable growth, and we note that the population was more than doubled in forty years, and another 35 per cent. added in the next sixteen years.

The manufacturing districts shared in the growth of the two principal towns. Figures are not easy to obtain, but the following record of births, deaths and marriages in Rochdale point to a considerable increase.[2] In 1700 there were 268 births, 177 burials, and 91 marriages. In 1760 the figures were 355, 255, and 160 respectively, increases of 34, 44, and 77 per cent. The higher marriage rate, characteristic of the middle of the century, probably means that many young people were coming into the district and afterwards marrying there. Baines in his history gives the gist of a survey of the bishopric of Chester in the reign of George I, and this is perhaps the most reliable evidence on population, setting five as the average number in a family. It shows the bulk of the population residing in the three deaneries of Warrington, Manchester, and Blackburn, corresponding roughly to the hundreds of West Derby, Salford and Blackburn.

General Survey.—In the Deanery of Warrington, the principal towns outside of Liverpool were Wigan and Leigh with about 5,000 each, then Winwick with about 4,500, while Ormskirk, Warrington and Prescot each have between 3,500 and 4,000. In the Deanery of Manchester, which includes most of the clothing districts, Bolton-le-Moors had 6,500, Bury about 6,000, including some 1,200 Dissenters, the town and Chapelry of Oldham had about

[1] Percival: *Essays*, III, p. 4 and p. 53.
[2] Baines: *Lancs. and Ches., Past and Present*, Vol. II, pp. 106–200.

4,000 people, and Rochdale had nearly 5,000 in the town and 6,000 in other parts of the large parish, probably slightly over 10,000 altogether. In the Deanery of Blackburn that parish and Colne were the only considerable ones. Blackburn had some 9,000 people, three or four thousand of which were in the town itself. Such figures show how industry was dispersed over the country districts when less than half the population was gathered in the town. Colne was a flourishing district with about 3,000 people. The other places, with from 1,500 down to 1,000, were Clitheroe, Newchurch (Rossendale), Haslingden, Burnley, Padiham, Lawchurch, and Whitewell. Accrington at that time had only about 500. In the Deanery of Leyland, with sixteen parishes, only three places exceeded a thousand people. These were Croston with about 3,000, Standish with about 2,330, and Eccleston with about 1,400. The Deanery of Amounderness, which contained Preston and Lancaster, does not give the number of families. Preston had, however, about 5 or 6,000 people throughout the century of 1660 to 1760, and did not begin to grow until about the end of our period, when the Douglas River navigation began to lay a supply of coal at her doors. In the Deanery of Lonsdale, the survey gives no particulars of population. There is almost as great a lack of detail about the Deanery of Furness, but we do learn that Ulverston had a population of about 2,500 and was therefore the most considerable place north of Lancaster.

General Industrial Distribution.—The distribution of industry at the opening of the eighteenth century is well illustrated by two maps appended to Westerfield's work on *Middlemen in English Business*.[1] The first of these shows the mineral trade, and the second the textile. The coal trade had developed in the principal areas of to-day: Cumberland, which sent most of its coal to Ireland and was largely in the hands of the Lowther Family; Durham and Northumberland were the principal sources of supply for

[1] Map III at the end of Westerfield's book. This map does something less than justice to the coal trade of Lancashire, which was much more developed than he would indicate.

the east coast and London, shipping from Newcastle-on-Tyne, South Shields, and Sunderland; the areas of Yorkshire, Derby, Shropshire, and Worcester, as well as those of Lancashire and Cheshire, furnished coal for the Inland Districts; the coals of South Wales went up the Severn to help supply the thickly populated clothing areas of the south-west. The southern counties received their supplies by sea from Durham and Northumberland, chiefly through the port of Southampton. Coal was not at this time, however, the chief fuel of England. It was not extensively used in industry, but was mostly for domestic consumption. Iron was still smelted with wood or charcoal as fuel. The industries where coal was used were those like glass works and salt works, in which heat was being supplied for the boiling of vats or crucibles. Even in houses it was making its way but slowly. The iron deposits of Durham and Northumberland were being worked to some extent, also those in the north-east corner of Derby; but apart from the north-eastern counties the main iron areas were those in Hereford, Gloucester and Monmouth and Weald of Sussex. About 1737 there were fifty-nine furnaces in eighteen different counties producing 17,350 tons annually.[1] In 1755 an ironmaster got a 99 years' lease of an iron area 8 miles by 5 at Merthyr Tydvil.

Lead was being mined in Derbyshire, North Yorkshire, and in Somerset; while the tin-mines of south-west Devon and Cornwall were growing in production fairly rapidly.

There was little change in this distribution of the mineral trades before the opening of the Industrial Revolution. The mines in the Furness District were becoming important, and we have seen that by 1750 there were seven of them in operation. Some of the blast furnaces for this area were located in the area between Lancaster and Preston because of the plentiful supply of wood in that district.[2] The growing scarcity of wood in the country was causing a slight decline in the Forest of Dean iron workings, and the need for some other method of smelting iron was being

[1] Toynbee: *Ind. Rev.*, p. 25.
[2] See Westerfield: *Middlemen in English Business*, p. 3, note 1.

increasingly felt, but up to the close of our period the problem had not been solved.[1] For the rest of the first half of the century only accentuated the distribution of mineral trades then in existence. The Lancashire fields shared in this growth, particularly when the development of the river navigation solved the problem of easy transport to the neighbouring manufacturing districts. Reference has been made to the impetus given to the supply of coal by the opening of the Mersey and Weaver navigation, that of the Douglas, and the Sankey canal.

At the beginning of the eighteenth century the clothing areas were three.[2] The portion of Lancashire previously mentioned formed with West Yorkshire the northern woollen district, drawing its supplies mostly from the local sheep farms, and those of Cumberland and Westmorland to the north. This district imported very little wool from the south at this time. The eastern district was centred in the eastern part of Norfolk and Suffolk with large parts of Essex and Kent. The third great clothing district was that of the south-west and covered most of the counties of Gloucester, Wiltshire, Berks, Somerset, with parts of Worcester, Warwick, Oxford, Bucks, Hants, and Dorset. This was a rich district for the supply of wool, but this area and the eastern district drew supplies also from parts of Wales, Sussex, Hertfordshire and the Lincoln sheep area. The Lincoln area included also Leicester, Northants, Nottingham and Huntingdon, but the only manufacturing of wool in this extensive area was that of hosiery in Nottingham. Linen was made only in two areas of importance, those of South Lancashire and a portion of Durham.

There was already a considerable amount of specialization in the different districts. Wilts, Gloucester and Worcester specialized in broadcloths and druggets, while Devon and Somerset made serges. Shalloons were the product of

[1] E.g., Postlethwayte: *Gloucestershire:* The Forest of Dean, which was formerly covered with wood for the space of 20 × 10 miles. The many rich veins of iron—or forges established there—the woods are not only reduced to narrower compass, but many towns and villages have been built in the forest.

[2] Westerfield. Map IV, "Distribution of Textiles at the end of the Seventeenth Century."

Northampton, Berks, Oxford, Southampton and Yorks. Norfolk made women's stuffs, Kidderminster made linsey woolseys; Salisbury made flannels, as did Wales to some extent. Dimities and cotton wares were the speciality of Manchester. The northern area generally made a coarser and inferior quality of cloth; Yorkshire being known as the centre of the "narrow cloths," while the Kerseys, half thicks, plains, and coarser things were made in Lancashire and Westmoreland.[1] The silk industry, usually associated with Spitalfields in London, was also established in Manchester. In 1657 Thomas Bailey, of Deansgate, Manchester, is described in the Court Leet records as a silk-weaver, and the family carried on the industry till about the beginning of the eighteenth century, when we find them as merchants.[2] That the industry did not die out is shown by the fact that the first Manchester directory names fifty manufacturers of silks and linens.[3]

Northward Tendency.—By 1760 there is discernible the tendency of industry to shift to the north, and this is noticeable in textiles particularly. It is marked by the growing ascendancy of Yorkshire woollens, and the comparative decline of Norfolk and the clothing districts of the south-west.[4] In 1744 a pamphleteer who is typical of many others deplored the decline of the woollen trade and described the decay of the woollen towns in recent years. Another in 1765 notes as one of the symptoms of the decline the starving condition of the poor in the clothing counties and mentions the numerous petitions to Parliament complaining of the decline of the woollen manufacture.[5] But these were speaking of the older clothing areas. The national expansion in woollens from 1700 to 1760 was only about 30 per cent., but most of the increase was in Yorkshire; there was a

[1] Defoe: *Complete English Tradesmen*, II, 280; also 282–3 (1738).

[2] *Lancs. and Ches. Antiq. Soc.*, Vol. VII, p. 208–11. *V.C.H., Lancs.*, II, 394. Wills also trace the industry from early half of seventeenth century. Manchester and Salford: Wills occur 1670, 1678, 1686, 1689, 1693, 1697, 1741, 1769, 1780, 1788, 1791, Middleton, 1778.

[3] Daniels: *Early English Cotton Industry*, pp. 67–70.

[4] J. H. Clapham in *Economic Journal*, Vol. XX, "Transference of the Worsted Industry," is inclined to minimize this decline, perhaps because his attention is concentrated on the worsteds alone.

[5] Rylands Library, Pamphlets No. 7163, T.5.1, and 18359, T.7.B.

decline in Norfolk and the south-west. Yorkshire broadcloths increased from 28,000 pieces in 1727 to 54,000 in 1765; and narrows from 58,000 pieces in 1740 to 77,400 in 1765. By 1774 Yorkshire was providing more than half of England's textile exports.[1] This ascendancy of Yorkshire and the north was emphasized by the rise of the worsted manufacture in Yorkshire in the first half of the century, and was assured when, after the Industrial Revolution, coal and iron became basic needs of the textile as of other industries. The northward movement of industry is also marked by the increasing use of cotton goods. In this direction the energy and initiative of the Manchester manufacturer and merchant, and, as America assumed the dominant place in the supply of raw material, the proximity of Liverpool, marked Lancashire as the centre of the cotton trade. The silk mills of Derby were by the end of our period one of the sights of the town for visitors. Reference has already been made to the silk industry in Lancashire.[2] Early in the century there were said to be 40,000 silk-throwers in London alone.[3]

Linen.—The linen industry of England was mostly in Lancashire.[4] Postlethwayte advocates the encouragement of the manufacture in the counties of Cumberland and Northumberland, where it might employ the women and children of the colliers' families. He says a little linen is made at Darlington, but that is too near the woollen area, and he does not approve of mixing the industries. In Lancashire there is not the same objection, because "it does not interfere with the cotton and because the warp of all their fustians and several other cotton goods are made of linen yarn."[5] Although the quantity woven in Ireland

[1] Heaton: *Yorkshire Woollen and Worsted Ind.*, pp. 258, 278, 281; also Hewins, pp. 118–25, *English Trade and Finance* (1756). Gloucester clothiers say that Yorkshire has taken part of their trade.

[2] See above, p. 24.

[3] Hewins: *Eng. Trade and Fin.*, pp. 139–40. Petitions filed in opposition to the commercial clauses of the Peace of Utrecht claimed that 60,000 were employed in linen manufacture in Lancashire, and 40,000 in silk-throwing in London.

[4] *Ibid.*

[5] Postlethwayte: *Univ. Dict.*,—Article, "Linnen." The quotation is from the report of the Irish Linen Board in 1736.

was reduced by the Manchester demand for linen yarn, yet the main seats of the industry in Great Britain were Scotland and Ireland.[1] There was an Irish Linen Board in Dublin during the 'forties and 'fifties of the century, and in both countries there was a general policy of premium and bounties to encourage and improve both quantity and quality. The existence of the "British Linen Bank" in Scotland is one survival of this period when the linen trade was being publicly fostered. The distribution of the lace manufacture is illustrated by the prizes given by the Anti-Gallican Society in 1752 and 1753. These prizes went to a male worker in Bucks, and female workers in Salisbury, Hereford, London, Honiton in Devon, and Lyme Regis in Dorset.[2]

Hosiery.—The hosiery manufacture was already fairly well concentrated in the Midlands. In 1750, it is estimated that there were 14,000 knitting frames in the country; of these 1,500 were in Nottingham, and 1,000 in Leicester, and another 7,300 in other towns and cities in the Midlands. London had 1,000, with another 350 in the adjacent county of Surrey. There were 200 frames at Derby and in all other English and Scottish towns there were about 1850, with a further 800 frames in Ireland.[3] Thus seven-tenths of the industry was centred in the Midlands, chiefly in the two towns of Leicester and Nottingham.

Influence of the London Market.—The trade of Britain in the eighteenth century was in every county influenced by the London market. In the metropolitan area was concentrated more than one-tenth of the whole population, and it was not a food-producing section of the population. Not only was it a great food-consuming market, it was the collecting and distributing centre for a great deal of the inland trade of the country, and it was the most important point of importation and export. So it may truly be said

[1] Postlethwayte: Article, "Foreign Trade." Linen is the staple of both Ireland and Scotland. Linen stamped in Scotland from Nov. 1746–Nov. 1747, 6,661,778 yards; Nov. 1747–Nov. 1748, 7,353,098 yards; Nov. 1748–Nov. 1749, 7,360,286 yards.

[2] *Ibid.*, Article, "Lace."

[3] Toynbee: *Industrial Revolution*, p. 25.

of England that "all roads led to London." This was the opinion of contemporaries. A writer says:

"It is an observation grounded on experience that every county in England is more or less employed in carrying goods of some sort or other for the supply of the city of London, as well the produce of the farm, as of manufactures." [1]

One of the features of our period is the assertion of independence by merchants in places which had formerly been under the control of one of the London companies. Heaton tells of the struggle between the northern branch of the Eastland Company and the headquarters in London.[2] This process of shaking off the fetters of the metropolitan trading companies was facilitated by the growth of ports like Liverpool, whose merchants had built up their trade free from such tutelage. It was not till the end of the first quarter of the century that cross-posts were instituted in England. Up till the 'twenties letters had to go up to London, and thence be sent to their destination, unless the sender were fortunate enough to find some traveller going direct to the town with which communication was desired. Their value was quickly realized, and their originator was considered a benefactor to the business part of the community. In 1755 there was a post three times a week from Manchester to London and by-towns; there was also a thrice-weekly post to Warrington, Chester, Worcester and Ireland. There was a daily post to Rotherham, Sheffield and Derby, and one thrice weekly to Rochdale, York, and Edinburgh.[3] About this time the thrice-weekly posts, not only to London, but the cross-posts as well, began to be run daily, an eloquent tribute to the rapid commercial growth of the country.

Coast Trade.—By sea there was a large coasting trade, in addition to the foreign trade. Harwich had a rapid

[1] Postlethwayte: *Univ. Dict.*—Article, "Britain"; also Defoe: *Complete Eng. Tradesman*, II, pp. 112–137. Also above, chap. III.

[2] Heaton: chaps. V and VII, *Records of the Eastland Co.* at York end in 1696. A statute of 1689 destroyed their monopoly in the European market, and their power outside London rapidly declined.

[3] *Lancs. and Ches. Antiq. Soc.*, Vol. XXII, p. 8 *et seq.* See also Joyce: *History of the Post Office.*

passenger service to Holland, but it had also had "three to four hundred sail of colliers riding in safety at one time," most of them destined for London. Yarmouth had a large export trade in corn, and in woollens from the northern district as well as from the adjacent eastern counties. Lynn Regis and Boston were also important ports from which there was an inland trade by river to parts of at least seven counties. Grimsby was a considerable port at the time. The chief ports of the northern section of the east coast were Hull, Sunderland and Newcastle. Hull, at the mouth of the Ouse and Trent, received the trade of a great part of the north, including York, Lincoln, Notts, Derby, Sheffield, Warwick and even trade from the western counties, such as Cheshire cheese for London. Fleets of 50, 60, and in time of war even 100 sail at a time were employed. Sunderland and Newcastle were engaged in the shipping of coal, and we are told that Sunderland might have equalled Newcastle, but that it had no good harbour, and the ships had to load in the open roads, a slow and sometimes perilous operation. Going south from London, the chief ports were Sandwich, Ramsgate, Rye, Deal, Portsmouth, then as now a naval centre, Southampton, Poole, Exeter, Dartmouth, Falmouth, Penzance. On the west coast were the chief ports of the country after London for foreign trade. Bristol and Liverpool shared the Irish trade, and competed in the trade to Africa and America; while Chester struggled with the sand that was gradually closing up the mouth of the Dee. From Parkhead she still retained much of the passenger trade to Ireland,[1] but by the middle of the century she was completely overshadowed by her more fortunate rival at the mouth of the Mersey "whose growth in the previous half-century (before 1766) was the admiration of the country."[2] The same writer says that about 1760

[1] Postlethwayte: *Univ. Dict.* A contemporary statement of the comparative importance of the harbours on the English coast. *Re* Liverpool, Brooke: *Liverpool*, 1775–1800. In the Appendix he gives a table of ships belonging to the town in 1752. The total was 357.

[2] Postlethwayte notes that Bristol merchants trade with less dependence on London than any other town in Britain except Liverpool.

John Wesley usually crossed from Parkhead when he travelled to Ireland once or twice a year.

there were 413 vessels sailing out of Liverpool, 106 in the trade to West Indies and America, 87 in the slave trade, 102 in the coasting and Irish Trade, 20 in the carrying of cheese to London, and 80 river sloops in the river navigation. These were the vessels belonging to the port, and there would be considerable numbers trading from other places. North of Liverpool the chief port was Whitehaven, engaged in the coal trade to Ireland, 150 to 200 sail at a time departing for Ireland in time of war.[1] He estimates that there were 1,500 sail engaged in the coasting trade in coal in England—many from Lancashire and Cheshire, with rock and other salt, from Cornwall with tin —from the ports on the south coast of Devon and Somerset there were 300 sail carrying bale goods, and returning with heavy goods, groceries, oil, lead and iron. Between Bristol and London there was a trade in glassware, and some West Indian goods, sugars, cottons, etc. There was a continual throng of vessels to London with corn from all the southern and eastern counties. This writer computes the number of people engaged in the coasting trade as 100,000, including the fisheries.

River Trade.—The river navigation was becoming more important as the century advanced. The main routes were the Thames, carrying the corn of that rich farming region, the Severn, the Mersey and the Trent. One of the routes from the Lancashire clothing area to London was over the hills to Wakefield, down the stream to Hull, and thence by sea to London. In 1753 the Airmin Company were engaged in carrying goods from Manchester to London via Wakefield and Hull, and they advertise as an extension of their business that they are opening a packing establishment in Manchester to meet the convenience of their customers.[2] The network of rivers in the low-lying parts of the eastern counties has been mentioned.

Land Carriage.—But great as the river and the coasting trade was and bad as the bulk of the roads were, there was still a vast commerce carried on by the land routes. Not

[1] See Postlethwayte, op. cit.
[2] *Manchester Mercury*, Aug. 7, 1753.

only the local trade in produce but a great deal of the longer carrying was by pack-horses and wagons and carts.[1] There were 42 carriers engaged in the trade out of Manchester, going to 31 different places, including London, Birmingham, Bristol, Doncaster, Halifax, Leeds, Liverpool, Newcastle, Nottingham, Sheffield and York in 1772.[2] The number of carriers' horses was even disturbing a school in Wheat Sheaf Court, Dean's Gate, Manchester, in 1752, and the schoolmaster had to get the carriers to change their rendezvous before parents would permit their children to come to his school.[3] The principal land routes were, the northern routes from London to Scotland, one by Yorkshire, and the other by Lancashire; the route between London and Bristol; between London and the Midlands, and between Lancashire and the Midlands; and the routes over the hills connecting the industrial areas of Lancashire and West Yorkshire.

Population Shifting to the North.—The northward trend of industry is confirmed by the distribution of population.[4] Toynbee in his lectures on the Industrial Revolution accepts the population estimates by Finlaison, in the preface to the Census Returns of 1831. According to them the population of England in 1700 was 5,134,516; and by 1750 this had reached 6,039,684, an increase of 905,168.[5] But of this increase Lancashire, West Yorks and Durham alone provided more than 295,000, or nearly a third of the total increase of the country. The greatest increases in population during that time were recorded by Lancashire, 78 per cent.; West Yorks, 52 per cent.; Warwick, 45 per cent.; Durham, 41 per cent.; Stafford, 36 per cent., and Gloucester,

[1] Defoe: *Complete Eng. Tradesman*, 4th Ed., 1738, Vol. I, pp. 339–40. This carriage of goods in England from those places is chiefly managed by horses and waggons, the number of which is not to be guessed at—in a word, our river navigation is not to be named for carriage with the vast bulk of carriage by pack-horses and by waggons, nor must the carriage by pedlars on their backs be omitted." Goes on to say that the cloth is usually carried by land from the south-west and from the northern area.

[2] Daniels: *Early English Cotton Ind.*, p. 71.

[3] May 12, 1752, *Manchester Mercury*.

[4] Curtler: *History of English Agriculture*: "The population was rapidly growing. By 1688 the returns of the hearth-tax prove that the northern counties were nearly as thickly populated as the southern."

[5] Toynbee: *Industrial Revolution*, p. 8.

34 per cent.[1] From the figures of Finlaison, Toynbee makes up a table of the twelve most populous counties of England in 1700, 1750 and 1781. Reference to this table will show that the chief counties in 1700 after Middlesex and Surrey were in the clothing area of the south-west. Gloucester, Northampton, and Somerset follow immediately after the metropolitan area, while Wilts is only six per square mile less than Somerset. The other counties in the list are Worcester, Herts, Bucks, Rutland, Warwick and Oxford—all of them in the central block of counties—some in the rich agricultural valley of the Thames. Not one of the twelve is north of the Trent; but by 1750 there is a change noticeable. Lancashire has moved into the list and takes third place after Middlesex and Surrey, while West Yorks and Durham have moved into the list with a density almost the same as Somerset, Durham being one more and West Yorks two fewer per square mile. Somerset, however, has fallen from fifth to tenth place in the list, while Gloucester has yielded third place to Warwick and is being closely followed by Lancashire. Northampton, Wilts, Rutland, Bucks, and Oxford have dropped out of the list and their places have been taken by Lancashire, Stafford, Durham, West Yorks and Berkshire.[2] To that extent is the northward movement of population to be discerned by 1750, that four of the five new counties in the list of twelve most densely populated counties are north of the Trent, and as noted above, one-third of the total increase in the country was in three of the northern counties. It is worthy of note that by 1881 the counties of Somerset, Herts, and Berks have dropped out of the first twelve and have been replaced by Kent, Cheshire and Nottingham. Gloucester has dropped to twelfth place and Warwick has given way before Lancashire, Durham and Stafford.[3]

A table of the principal provincial towns shows that from 1685 to about 1760 there was a similar shifting of the balance of growth from the southern to the northern centres. Liverpool had increased about tenfold, Manchester five to seven-

[1] Toynbee: *Industrial Revolution*, p. 8.
[2] *Ibid.*, p. 10.
[3] *Ibid.*

fold, Birmingham sevenfold, Sheffield about sixfold, while Nottingham had a little more than doubled. Of the southern and eastern towns Norwich had scarcely doubled in the same time, Bristol had increased about three and a half times, but the growth of the rest had been inconsiderable in comparison. In the period from 1760 to 1861 it is the northern towns again which have had the greatest growth. Liverpool, Manchester, Birmingham, Sheffield, have all grown about tenfold or more, while Norwich has less than doubled, and Bristol a little more than doubled.[1] It will be seen, therefore, that the new grouping of the population was not only faintly traceable by 1750, as one writer suggests,[2] but was distinctly marked, and the only effect of the Industrial Revolution was to accentuate the change.

Why, then, did industry and commerce tend to leave their older haunts in the east and south-west for a new home in the north? The growth of the foreign trade of Liverpool, the value of the Mersey as an outlet for the products of the Cheshire salt works then expanding through the use of pit coal, and for the growing Staffordshire potteries, offer a partial explanation. These are not, however, sufficient to explain the growth of the textile industries of Lancashire and West Yorkshire, and their decline in the east and south-west. Only tentative suggestions can be offered here. Defoe hints that there was greater natural ability amongst the manufacturers and merchants of the north than amongst those of the older districts.[3] Another

[1] Toynbee: *Industrial Revolution*, p. 11.

[2] C. Grant Robertson: *England under the Hanoverians*, p. 337. This writer takes two maps from Paul Mantoux, *La Revolution Industrielle*, pp. 360–63, showing the comparative distribution of the population in 1700 and 1801. Mantoux gives the distribution per square kilometre, and Robertson repeats it as per square mile, thus making the population seem much less dense than it really was. Lancashire in 1700 is given as between 20 and 40, when it should be more than 90. In 1801, according to the census returns, it was 379 per square mile, but in Robertson's book it was still under 150.

[3] Defoe: *Tour*, III, pp. 257–8 (ed. 1769), explains the growth of Liverpool:

(*a*) Traders were frugal in management and can sell at the cheapest rate.

(*b*) They admit all degrees of people, even their own servants, to

cause might be found in the greater freedom from mediaeval gilds and monopolistic associations, which gave greater play to individual initiative and permitted the business world to draw its leaders from a wider range of men. A third element worthy of consideration is the presence of the small farmer-manufacturer in such large numbers in Lancashire and West Yorkshire as compared with other clothing districts. His independence, due in some measure to his possession of a few acres of land, no doubt contributed to a steady increase of the small capitalists who became merchants and factory owners to so great an extent in the north. The lower cost of living in the north also played its part, and amongst the influences must be reckoned the depopulating tendencies of the enclosures and engrossing of farms in the south. As a chemical agent when put into a mixture can only operate on the elements already there, so the new conditions arising out of the mechanical and chemical discoveries of the later eighteenth century did not create new forces so much as intensify and give greater play to those already in being.

employ the smallest stock in trade by which they become interested in the event.

(*c*) Surprising public spirit in advancing money for public improvements and forwarding everything of public interest.

Hewins: *English Trade and Finance*, pp. 118, 125. Gloucester Clothiers say that Yorkshire has won part of their trade due to the better economic management of the manufacturers.

CHAPTER VI

INDUSTRIAL TECHNIQUE

BEFORE the Industrial Revolution of the eighteenth century, apart from mines, blast furnaces, smelting houses, and the like, where the nature of the operations or the high cost of the fixed capital required the gathering of a number of workmen together, industry was on the domestic basis. Even where capitalists provided the raw material in whole or in part, or where they had organized the collection and marketing of a commodity on a large scale, the gathering of a large number of workmen at one plant was comparatively rare. Perhaps the most notable exception to this rule was the silk-throwing mill at Derby. In the main the actual operations were still carried on in the homes of the workers. The work was hand-work and the power was in most cases human power. Until the invention of machines and the application to them of non-human power made possible a great multiplication of the output per worker, the economies effected by such a concentration of workpeople as the factory system implies were mainly those due to a closer supervision of the work, and a saving of time in the collection and distribution of material. These seem to have been insufficient to encourage the necessary expenditure, especially in the face of the opposition that would come from those who owned looms or other tools for working at home.

It will be well to consider the technique of industry under two main heads: mines and metal industries on the one hand, and textiles on the other. The great engineering industries of later days had not arisen, and the chemical industries, where developed, were subsidiary to one of the others.

Lead.—In Derbyshire the persistence of the ancient law and custom provided a remarkably free system of mining. Anyone who discovered a vein of ore might work it unless it were in an orchard or garden. He was granted a certain plot of ground for his shaft, and on payment of certain fees for roadways, etc., could begin operations with no further title than that granted by the Barmoot Court, consisting of a Master and twenty-four jurors.[1] The custom is described by a poet in 1748:[2]

> "And he by custom that his mine doth free,
> A good estate thereby doth gain in Fee,
> And if he die and leave behind a Wife,
> The custom doth endow her for her life.
> But if the Grove be left for want of Stows,
> Or forfeited, her dowry she doth lose."

The same poet mentions the payment of the King's Royalty, the 13th penny, in feeling terms:

> "For Miners spend much Money, Pains, and Time,
> In sinking shafts before lead ore they find;
> And one in ten scarce find, and then to pay
> One out of ten, poor miners would dismay;
> But use them well, they are laborious men,
> And work for you, you ought to pray for them."

Since this royalty was compounded for an annual payment of £1,000 in the Wirksworth district alone, considerable mineral must have been raised. This free system of mining has interesting analogies with the system at present employed in Ontario, Canada. There mineral is freely located, claims are staked, recorded, and finally approved by a government inspector, after which the miner goes forward freely, so long as a certain sum is spent each year on development, and a royalty is paid on the mineral secured.[3]

Yet the methods were crude.[4] Wherever possible, an

[1] Defoe: *Tour*, III, p. 78 (Ed. 1769).
[2] Poem of the Steward of the Barmoot Court of the Wapentake of Wirksworth.
[3] See Introduction.
[4] Lead in Derbyshire was found in rakes or fissure seams, nearly vertical, and in pipe works, a horizontal stratum of ore. The rakes were, however, the chief sort. *V.C.H., Derby*, II.

adit was run into the side of a hill, but elsewhere shafts were sunk just large enough for a man to get down. Set in the corner of this "groove," were pieces of timber forming the steps of a rough ladder. The miner supported himself against the walls of the groove in ascending and descending and carried his tools on his back. In the same way he brought the ore to the surface. Defoe gives a lively description of an encounter with one of these workmen emerging from his groove.

"When this subterranean was come quite out he afforded us new matter for wonder, and satisfied our curiosity without venturing down ourselves. For the man was a most uncouth spectacle; he was clothed all in leather—had a cap of the same without brims and some tools in a little basket which he drew up with him. . . . Beside his basket of tools he brought up with him about three quarters of a hundredweight of ore which was no small load considering the manner of his coming up . . . and it seems he was at work sixty fathoms deep, but there were five men of his party two of whom were eleven and three fifteen fathoms deeper. The man seemed to regret that he was not one of these last because they have a way out at the side of the hill." [1]

When the ore had been raised there were two principal methods of smelting it. In Derbyshire it was smelted with wood as a fuel, and in Flintshire with pit coal. When smelting with pit coal, the furnace was like an oven with an open fireplace at one end and a chimney at the other. The ore was let down through a hopper into the space between the fireplace and the chimney, and the draft drew the flames across the ore. The ore was usually pounded in stampers, or with hand sledges before smelting, and some burnt lime was used as a flux to separate the dross, and, to prevent the lead being vitrified, some charcoal or billet wood was thrown into it. From this oven the lead was drawn off through a tap-hole and run into pigs. If it carried sufficient silver it was first refined for silver, and again smelted into lead pigs. The wood smelting method was similar, but the furnaces were open, and the blast was provided by bellows instead of a chimney. In the

[1] Defoe: *Tour*, III, p. 8 (Ed. 1769).

furnace the fuel and the ore were laid in alternate layers, somewhat as in modern iron smelting. This method was considered to make the Derbyshire lead of a better quality.[1]

Iron.—There were iron forges and "bloomeries" in Lancashire before the eighteenth century, but it was not until the period before the Industrial Revolution that the industry developed to any extent.[2] In 1710 the Backbarrow furnaces were begun by Machell and Sandys. In 1728 these works were producing sixteen tons of iron annually. In 1738 Isaac Wilkinson settled there and commenced the business of manufacturing flat smoothing irons, drawing his molten iron from the local furnace.[3] Ten years later he purchased the furnace and forge at Wilson House in Cartmel, and experimented with peat-moss for smelting the hematite ore, but was unsuccessful and had to adopt the charcoal method. Meantime the works at Backbarrow were developing, for in 1750 they produced 260 tons of bar-iron. In the southern part of Lancashire there is mention of iron mines in Rochdale, where, according to Baines, iron mines had been wrought since 1744[4]—but the main points in Lancashire in the eighteenth century were Wigan, Rossendale and Furness.

The smelting arrangements were rather primitive, but the creditable output of 260 tons per annum was reached in Lancashire.[5] Elsewhere much larger furnaces existed, as, for instance, the famous Rotherham works in Yorkshire, producing 1,400 tons annually, about 1740. In the Weald of Sussex there were 10 furnaces with an annual yield of 1,400 tons, while Gloucester, Shropshire, and Yorkshire had altogether 6 furnaces each; and there were others in

[1] The above description is based on Postlethwayte's *Universal Dictionary of Trade and Commerce*.—Article, "Lead." Reverberatory furnaces were introduced by the Quakers' Company into Derbyshire in 1747. *V.C.H., Derby*, II.

[2] Information on the earlier iron industry in Lancashire is taken from the *Victoria County History of Lancs.*, II, pp. 359–63. The authorities quoted in that work are noted.

[3] Cowper: *History of Hawkshead and Manch. Lit. and Phil. Soc.*, Vol. XV. "Notes on the Wilkinsons, Ironmasters." See also Stockdale: *Annals of Cartmel*, pp. 209–10.

[4] Baines: *Hist. of Lancashire*, II, p. 641.

[5] Lucas: *Hist. of Wharton*, II, p. 464 ff.

different parts amounting in all about 1737 to 59 furnaces with an output of 17,350 tons a year.[1] This seems small, but England was then an iron-importing country, receiving largely from Sweden, Spain and Russia. This moves Postlethwayte to suggest that the nation offer a Parliamentary reward to any who shall discover the secret of making bar-iron by means of the pit coal fuel.[2] It must be remembered too that there was comparatively little iron machinery being made. Farm implements were shod with iron only where necessary, and so far as possible wood was used in the construction of tools and machines. In the looms of the textile industry little iron was used, so that the small production with some importation satisfied the needs of the country.[3]

Charcoal.—Since charcoal was used so largely for iron smelting the method of making it may be noted here. As in most other industries the methods were crude, but the results, while small in quantity, were satisfactory. Wood cut in winter was burnt in the summer. When the site of the hearth is chosen the turf is pared off and the sods laid aside. About ten cord of wood is laid on this site—the small pieces to the outside and the larger ones in the centre. With the larger blocks the pile is built up like an inverted bowl, leaving a chimney in the centre. The pile is then tiled with sods and "pointed" with pulverized loam. The chimney is then filled with short pieces of dry wood—near the top is placed a live coal and the rest of the chimney filled up with wood. The whole is capped closely with sod and the one coal fires the whole pile. Fresh fuel is added in the centre as required, and in about seven or eight days in fine weather the fire begins to work out to the outer edges, which is the signal that the whole is finished. The hearth is then drawn, and it is an "infernal business";

[1] Toynbee: *Industrial Rev.*, p. 25.
[2] *Dict. of Trade and Commerce.*—Article, "Iron."
[3] Galloway: *Annals of Coal Mining*, p. 256. "Down to the middle of the sixteenth century iron continued to be scarce and dear—a sparingly used commodity. . . . Even in the early steam engines the cylinders and pistons as well as the working barrel and buckets and valves of the pumps were of brass. The great beam or driving rod was of wood."

the men work among fire and phlogiston enough to suffocate Satan himself.[1]

Copper.—Copper-ore came to Warrington from Cornwall to be smelted because of the plentiful supply of coal to be had there. It was burned for twelve hours, then cast and afterwards ground and burned twelve hours more, and when melted the third time was cast into pigs and sent away to other places. That from Warrington went chiefly to Holywell to be beat into plates and some to Cheddle in Staffordshire to make brass. The chief copper mines in Lancashire were those at Coniston Fells in the north. At Gouldscope, near Newlands, there were veins of copper, but no shafts were in being there or at Caldbeck. There is about the middle of the century an adit, but the cost of finishing it was uncertain. The writer at that time reckoned £1,000 enough to begin with, but by the time melting houses were built and copper could be ready for the market, " it will be six or seven years, and by that time £10,000 would be little enough." It was really the richness of the workings at Coniston Fells that caused Newlands and Caldbeck to be abandoned. There were ten workings altogether with seams ranging up to 27 inches in thickness. The takings were reckoned by the kibble—a measure about equal to a horse-load in weight.[2]

Related to the copper mining and smelting was the trade of the brazier, many of which trade were found in Wigan in the period round the middle of the century. As carried on in England it was a domestic manufacture practically and was usually combined with a general business in hardware. The brazier did not as a rule keep a forge except for the making of vessels out of copper and brass prepared rough to their hands.[3] The export of copper and brass had been forbidden in Tudor days, but under William and Mary export had been permitted and a duty imposed on import, and about 1723 the free export of British brass was made legal.

[1] Marshall: *Midland Counties*, II, 303, 1790.
[2] Postlethwayte: *Univ. Dict.*—Article, " Copper."
[3] *Ibid.*

Watch-making.—A metal industry of the finer sort, that of watch and watch-tool making, was centred in the Liverpool and Prescot district, and in the former place were file cutters and watch-case makers about the middle of the century. Details are wanting of the technique of this industry;[1] but it was organized on the domestic system and involved fine craftsmanship. Work was given out by the manufacturer on Monday morning and was returned to him by the job-masters on Saturday. The manufacturer assembled the parts and despatched them to customers elsewhere.[2]

It was in Birmingham, however, that even in the eighteenth century the small metal wares trade settled. They made all sorts of tools, smaller utensils, toys, buckles and buttons—in iron, steel and brass.

Coal.—Coal was being got in Lancashire as early as the thirteenth century in the neighbourhood of Colne. It was probably from this source that the monks of Bolton Abbey got their coal for their forge.[3] During the succeeding centuries it continued to be got in small quantities in different parts of the county. In Tudor times the cannel coal of the Wigan area was well known,[4] and the Padiham coal mines even in the fifteenth century were held at a rent of 20*s.* per annum. Towards the close of the sixteenth century the importance of coal was so far recognized that some proprietors began to reserve the coal-getting rights when leasing the land for agricultural purposes.[5] But even into the eighteenth century the right to dig coal was part of the ordinary lease,[6] both copyhold and leases for lives.

The early methods of getting the coal were from the outcrops of seams at the surface. In some cases bell-like pits were sunk, the size of a shaft at the surface and widen-

[1] The mercurial pendulum for variation of temperatum invented by Graham in 1726—Lever compensation by Elliott 1735—the chronometer perfected by Harrison and accepted by Board of Longitude 1736–61. Wood: *Ind. England*, p. 119.

[2] *V.C.H., Lancs.*, II, 366–7.

[3] Galloway: *Annals of Coal Mining*, p. 28.

[4] *Ibid.*, p. 115.

[5] *Lancs. and Ches. Antiq. Soc.*, Vol. VII, p. 42, Lancs. and Ches. Coal Mining Records.

[6] *Manchester Mercury*, Sept. 19, 1752, and Nov. 7, 1752.

ing in a bell-shape underneath as far as was consistent with safety.[1] In other cases where the outcrop was on the side of a hill, tunnels were run into the hill-side and the coal brought to the open in that way. This system is at present in use in part of the new coal areas in Spitzbergen.[2] In still other cases the vein was laid bare as far as possible and the coal dug as from a quarry or open cast.[3] In modern coal disputes it is noticeable that miners are still ready to resort to this method in order to obtain small quantities for domestic use.

In the sixteenth century the coal was almost all obtained from shallow collieries above the level of free drainage by the pit and adit system—mines being opened out in elevated situations affording natural facilities for this arrangement.[4] The system of open cast or quarry working persisted in Staffordshire into the middle of the seventeenth century, but that is said to be the last district where it survived. During the first half of the eighteenth century the coal workings of Lancashire were considerably extended as the improvement of river navigation made transport from the workings easier. The pillar system of working was that principally in use in the first half of the eighteenth century. This was the system whereby pillars of coal were left standing in the working to support the roof. The proportion of coal that could be removed varied with the character of the surrounding soil. Some examples of the contrary system, whereby props, etc., were used and all the coal removed, were to be found, but even as late as 1862 this method was considered something of a novelty in the Lancashire fields.[5]

In the eighteenth century where vertical shafts had been sunk the men were let down by a rope and windlass and the coal drawn up in buckets. The rather leisurely nature of the marketing is perhaps over-emphasized by Bamford

[1] *V.C.H., Lancs.*, II, p. 359. Some sixty of these old workings have been discovered on the Coppice estate near Oldham.
[2] Lecture by Mr. Mathieson, F.R.G.S., Edinburgh, in command of the Geological Expedition to Spitzbergen in 1920.
[3] Galloway: *Annals of Coal Mining*, p. 32.
[4] *Ibid.*, p. 125.
[5] *V.C.H., Lancs.*, II, 359.

in his introduction to the 1850 edition of the works of Tim Bobbin, but illustrates the crude methods to some extent.

"The collier then brought his coal to daylight at the mouth of a tunnel. . . . If the road was accessible by carts, and one came to be filled, it was filled, the money paid, and the carter got his tit and his load down the hill as best he might—or if a half-dozen ponies or galloways came to be loaded they were supplied if there were coal enough got and if otherwise they would probably have to wait at the place—or they went browsing on the moors till it was ready. Or if the mine were worked by means of a shaft, a windlass and a couple of buckets were generally deemed sufficient machinery.[1]

Many of the mines, however, were more extensive and more energetically worked. Pococke in 1751[2] visited one of the mines at Wigan which, he was informed, was 120 feet deep. The water was pumped up and ran off down the hill-side. The coal, which was cannel coal, was raised in lumps about 2 feet long and 4 feet in girth, and these large lumps were sold for 3*d.* a hundredweight, while the broken lumps were sold at a shilling a load of 1,200 pounds. The workpeople went down by means of a rope and the coal was drawn up in buckets. The earliest reference to the use of gunpowder for blasting in coal mines is 1719.[3] Elsewhere we learn that the maximum depth of pits at the opening of the century was 400 feet.[4]

Fire-damp.—But with the deepening of shafts the two problems that constantly demand the attention of the coal-miner became more pressing. These were the disposal of the water and the fire-damp that endangered the lives of the miners. Early in the eighteenth century occurred some of the great colliery explosions, one at Gateshead about 1705 and one in the Wear district in 1708.[5] Gas was a constant danger in the coal mines and various contrivances for averting the danger were in use. These were of three kinds—a test of the shaft before sending the workers down, burning out the fire-damp by setting fire to it, and lastly

[1] Bamford, ed. of Tim Bobbin: *Lancashire Dialect*, 1850, Introduction.
[2] *Camden Soc.*, Vol. I.
[3] *Philosophical Transactions*, No. 360, p. 968.
[4] Galloway: *Annals of Coal Mining*, p. 231.
[5] *Ibid.*

drawing it out of the working by some sort of ventilation.

Sometimes the test was made by sending a man down first with a lighted candle, and if it was dangerous the flame would blaze up half a foot long. This had its disadvantages from the tester's point of view. Pococke mentions the case of a man who was so burned by it that he died. Sometimes if there was reason to think it was very bad they would let down a lighted candle to set fire to it and so get rid of it. When first they opened a pit they let down a round iron grate full of fire to draw out the damp by setting it on fire.[1] These examples are from the coal-pits near Wigan, but such plans were no doubt commonly adopted. In small pits such as were common in the eighteenth century it would be possible to do this without serious danger to the workings.

Ventilation of some kind was also attempted. In some cases a fire was kept burning at the bottom of the main shaft and the draught thus caused drew off the noxious damp as it gathered. This was perhaps the commonest method of attempting ventilation. Pococke tells of some ingenious contrivances in use in the Cumberland mines near Whitehaven. They are best described in his own words.[2]

"The foul air is very common in these pits and in order to carry it off they enclose a shaft and place three or four wooden pipes in it about four inches square, which are carried up to the surface and all the foul air going into the shaft is conveyed up the pipes to which there are small funnels at the top about two inches in diameter. On them they lay a plate of iron with holes made through it. If they put flame to it the air takes fire and continues burning but only some inches from the vent which proves that it needs air to mix with it before it will burn."

He tells further of one pit so bad that they were afraid to enter it with candles or lamps for fear of setting it on fire, and they worked by the light made by a steel wheel and flint—but he says nothing of the hardships that must have been endured by the miners in a pit so full of gas. They had funnels like chimneys in many of the pits to convey away the gas by draft.

[1] Pococke: *Camden Soc.*, Vol. I. Quoted *V.C.H.*, II, p. 358.
[2] *Camden Soc.*, Vol. I, p. 16 *et seq.*

Drainage.—As stated above, many of the mines were on the pit and adit system above the level of free drainage; but many others had been sunk below that level and it was necessary to find some means of clearing the workings of water. It was in trying to cope with this need in the tin mines that Newcomen produced the first steam engine. It was not a steam engine as we know it, but simply an arrangement for driving steam into a cylinder, where its presence drove out the air, and when it condensed a vacuum was formed, which drew up the water to fill it. When combined with Savory's scheme it made the first genuine steam engine about 1712.[1] By 1729 it had been brought into use in a great many places and always with success. With its beam or driving rod of wood, literally the handle of the pump, because for the first sixty or seventy years the steam engine could perform only the see-saw motion of the pump handle, its cylinder and piston, as well as the working barrel of brass, and the top of its boiler made of lead, it was very unlike the modern steam engine. The only iron used in it was on the under part where it met the fire and in the chain connections with the great beam;[2] But such as it was it went a great way toward solving the problem of pumping the mines. Lancashire was well to the front in point of engineering skill; although prior to 1750 there were few steam engines in the north. By 1758 the use of the steam engine to raise coal was suggested, but was not applied to that use until after the end of our period. About 1753 Michael Menzies effected a contrivance for pumping water up and then sending it down in buckets to balance the weight of coal in buckets coming up.[3] Ventilation and pumping are described as being combined in the mines of Whitehaven.[4] Some of them in Defoe's time were sunk to 130 fathoms.

"Those who descend into these mines find them most close and sultry in the middle parts that are most remote from the pits and adits and perceive them to grow cooler the nearer they

[1] Galloway: *Annals of Coal Mining*, p. 231.
[2] *Ibid.*, p. 256.
[3] Defoe: *Tour*, III, p. 284.
[4] Cunningham: *Growth of Industry and Commerce*, Part III, para. 221.

approach to those pits and adits that are sunk to the deepest parts of the mines, down which pits large streams of fresh air are made to descend and up which the water is drawn out by means of fire engines."

It is hardly clear whether the air was forced down by the engines as well as the water drawn up. If so it is probably almost the only instance of air being pumped into the mines at that time.

By-products.—A by-product of the coal mines of Cumberland was vitriol. Many of the coals contained a proportion of sulphur and vitriol. These coals were sorted and put in a yard with a stone floor and enclosed by a stone wall. Drains from the yard led to a reservoir and the rains carried the sulphur and vitriol off in solution. This solution was boiled in leaden vessels, and when sufficiently concentrated iron dross from the forges was added and when the boiling was finished the product was let off into large cisterns. Then as it cooled it precipitated copperas, which was packed in hogsheads for shipment abroad.[1] The attraction of a plentiful supply of fuel is seen in the presence of glass and salt works in the neighbourhood of Newcastle, the glass works at the town itself, and the salt pans further down-stream at Shields.[2]

Tar and Oil.—In Shropshire occurred the first manufacture of pitch tar, and oil, out of coal and shale. Patents were granted for these in 1681, 1694, and 1697.[3]

Steam Pumps.—Reference has been made to the progress in applying the power of steam to the pumping of water. During our period no further progress was made; the engine remained a "giant with only one idea," and it was not till the double-acting engine was invented to give a rotary motion and thereby turn a shaft, that steam could aid in other operations.

Railways.—As steam had its first industrial success in the coal industry, so it was here that the railroad had its birth. The first railways were constructed in the time of Charles II, but were not general till the eighteenth century.

[1] Pococke: *Camden Society*, Vol. I, p. 16 *et seq.*
[2] Defoe: *Tour*, III, 237 (Ed. 1769).
[3] Galloway: *Annals of Coal Mining*, p. 191 ff.

Mines were often in isolated positions and the cost of roads to stand the constant passing of heavy carts, with the cost of cartage in addition, was a heavy drain on the profits of the less favourably situated mines. The rails were of wood, and were to make tracks for wagons from the pithead to river or canal. Attempts were also made to secure a uniform gradient, and there were fills as much as a hundred feet high in some of the valleys. In 1725 there was a railway at one of the Tyneside workings. The loaded trucks, with wooden brakes, went down the track by their own weight, and were drawn back empty by horses. There was one 5 miles in length at Col. Lyddal's works at Tanfield.[1] The same writer cites an extensive correspondence during the years 1745–8, with reference to the supply of wooden rails by a merchant.[2] As the first wagons used were ordinary carts, the flange was on the rail, not on the wheel.[3] The first use of iron rails was in 1757, when they were laid on a permanent way, but this experiment was not successful, as the rails, being of cast iron, snapped easily under the strain. Wrought-iron rails did not become general until the rolling mill in the nineteenth century made it possible to produce them economically.

Smelting Iron.—A third problem was the growing scarcity of wood, and the consequent need for discovering a method of using coal for smelting iron. Experiments to this end were made during the seventeenth century, but were not commercially successful. In 1735, however, Abraham Darby succeeded in making coke,[4] and this fuel, with the aid of a more powerful blast, was made a substitute for charcoal. The next improvement came in 1766, when the Cranages introduced a reverberatory furnace in which

[1] Galloway: *Annals of Coal Mining*, pp. 248–9.

[2] *Ibid.*, pp. 256–8.

[3] An engraving made from a drawing of 1750 depicts Prior Park, the seat of Ralph Allen, of Bath, of Post Office Lane, in that year. The engraving shows a railway on the public road with two flat trucks laden with boxes each being pushed along by a man. Apparently this railway was used for ordinary commercial transport. Godden reproduces this engraving in *Memoir of Henry Fielding*, p. 178.

[4] The early coke was not the hard oven-baked coke of to-day, but a softer fuel made by burning coal in open furnaces, much as charcoal was made.

coal could be used, thus superseding the forges for making bar-iron from the pig-iron.[1] Cunningham says that the turning point in the industry may be put at 1760, when the Carron Works at Falkirk were founded, and Roebuck's blast furnaces were built with a view to using coal. But the progress was slow until about 1790, when engines were used for making a stronger blast, thus reducing by about two-thirds the amount of coal required.[2] The improvement in the blast effected in 1768 by Smeaton's water-driven blowing cylinders installed in the Carron Works must not be overlooked as a step towards the application of steam-power for the purpose.

As an illustration of the methods used in Lancashire, the following description of a "bloomery" in the Furness district is of interest. It was written about the end of the first quarter of the century.

"It is built like most others against the side of a hill, in a square form, the sides descending obliquely about six yards, and drawing nearer one another towards the bottom like the hopper of a mill. These oblique walls terminate at the top of a perpendicular square called the hearth, whose side is about $4\frac{1}{2}$ feet and which is lined with firestone to take off the force of the fire from the walls and to hold the fluid metal which drops into it as it melts. The top of the furnace is covered with a thick iron plate in the middle of which is a hole where they throw in the fuel and the ore." [3]

According to this writer they usually took about three weeks to get the furnace to the required heat before they began to run iron, but once kindled, the furnace could be used for years, burning day and night. Before being put into the bloomery the ore was burned in a kiln much like an ordinary lime-kiln to burn away the worst of the dross. It was then broken into small pieces with sledge-hammers before being put into the bloomery, which was first charged

[1] Smiles: *Industrial Biography*, p. 336. Cunningham: *Growth of Eng. Ind. and Commerce*, p. 523, note 2. In 1772, also, Jno. Wilkinson writes to Boulton that he has succeeded in smelting with coal, thereby doubling the output of his furnace. Stockdale: *Annals of Cartmel*, pp. 213–14.

[2] Cunningham, cited above, p. 524.

[3] Quoted by Lucas: *History of Wharton*, II, p. 464 *et seq.*

with charcoal and turf. Mixed with it was limestone or old cinders to act as a flux. This went into a lump in the upper part of the furnace and as the iron melted it dropped into the hearth or reservoir, where the scum was cleared before it was run off. The hard black turf mixed with the fuel saved charcoal, and was thought to improve the quality of the iron. The necessary blast was provided by two bellows, each about 22 feet long and 4 feet wide, worked by water wheels with buttons on the sides to act on the bellows, and weights were hung on the bellows to open them again when released from the buttons. They were so arranged that they worked alternately and so produced a continuous blast. The iron was run off into sand moulds much as it is to-day. The main channel from the door of the hearth was called the sow, and the small side ones were the pigs.

Tin.—The tin-mining of Devon and Cornwall had its birth in the little valleys of the streams running down to the sea from the main ridge of hills. The ores are described by a writer in 1778 as "shode," "stream," and "mine." The "shode" ores were those found adjacent to and scattered from the mother lodes in pebbles of various sizes. "Stream" ore was that found deposited in the soil of the valleys a considerable distance from the lode, having been carried down by floods at different times. "Mine" ore was that secured from the original "lode" itself, and these lodes were "buried in the rocky substances in the hills or cliffs." Stream tin, as the easiest to get, was the first to be worked to any extent, and it was a very rich ore, some of it only needing to be washed to bring 13 parts in 20 at the melting house.[1]

In the earlier days of the industry there were several stages in the method of getting the ore from the lode mines. There were pits open to the sky, and the ore was shuffled out like gravel, or hewn out in blocks. The next form is that of "coffins" so called. They were trenches dug along the course of the lode. Another development was that of "costeaning." This consisted in digging a series

[1] *V.C.H., Cornwall*, II, 540–1. See also Lewis : *The Stanneries*, chap.

of pits along either side of the lode, and connecting them with drifts so as to intersect the lode itself. The transitional period was reached in the sixteenth and seventeenth centuries, and the method was that of the "shammel." This was a shaft sunk gradually, leaving a series of ledges so that a man could conveniently throw ore from one up to another with a shovel.[1] Regular shaft mining succeeded to this method, and was the predominant characteristic of the eighteenth century, the stream and shode ores being comparatively worked out.

The period of great technical advance was the late seventeenth and the first half of the eighteenth century.[2] This technical advance is reflected in the increased output. In the last half of the seventeenth century the output rose from 500–700 tons to 1,000–1,500 tons, and this was further increased to about 2,000 tons per annum, an amount not greatly exceeded until after the Boulton and Watt engines came into general use.[3] Progress, apart from minor advance in the dressing of the ore, was mainly through the introduction of coal-smelting, and improvement in drainage by the use of water wheels and steam engines.

At the opening of the century there was a differentiation of fuels for different ores. Charked peat was used for stream ores, charcoal and peat for the lode ores, and for slag, charcoal alone. But the scarcity of fuel turned men's attention to coal. A German chemist living in Cornwall has some claims to priority, but no use was made of his discovery.[4] In 1705 Liddall took out a patent for smelting black tin with fossil coal. His patent was soon superseded by the reverberatory furnace of stone, in which the ore could be smelted without actually coming into contact with the fire. Thus arose what has come to be known as the Cornish method of smelting, although blast furnaces of the old type persisted alongside the new furnaces for a long time.

The tools of the tin-miner were much the same as to-day,

[1] *V.C.H., Cornwall*, II, 544–5.
[2] Lewis: *The Stanneries*, p. 18.
[3] *Ibid.*, p. 18. For details, see App. Q, the same work.
[4] *Ibid.*, p. 26. Quoted from Pryce: *Cornish Mining*, p. 282.
NOTE.—The information relative to tin-mining was taken from the *V.C.H., Cornwall*, II, pp. 545–51.

except for the tamper and borer. The borer was called a beele, and was a double-pointed tool, weighing 8 or 10 lb. It lasted the miner for about six months, with frequent repointing. The sledge was a hammer weighing about 10 to 20 lb., and lasted for about seven years. Gads, or wedges, which were used for breaking off the rock, weighed about 2 lb., and were well pointed with steel. The ubiquitous shovel and barrow completed the miner's equipment. The use of gunpowder for blasting the rock underground came into use about the end of the seventeenth century and the beginning of the eighteenth. Throughout the eighteenth century and into the nineteenth, the method followed was a dangerous one. When the powder had been tamped down, an iron "needle" was thrust through the tamping, and a rush inserted. This rush was filled with powder to act as a fuse. Sometimes a quill was used instead, when it was inserted and the tamping pounded down round it. In either case, the method was one productive of many casualties. Outside the mine the ore was transported on pack-animals. Occasionally the quantity was so great that horses and carts were pressed into service, but such were exceptional cases, and the pack-animal persisted until displaced by tramways about 1818.

With the advent of shaft-mining, the problems of drainage and ventilation became pressing, though explosive damps did not have to be combated. So long as the shafts could be kept above the level of free drainage, the adit system was used. Then the windlass and buckets were used. Later came the "rag and chain" pump. This was a long pipe with an endless chain coming up through it; at intervals on the chain were bindings of leather, which fitted the pipe snugly. So a series of short columns of water was raised to the required height. These pumps, requiring 24 to 30 men to work them in shifts of six men, could drain a shallow shaft, though with very heavy labour. Different dates are given by writers for the introduction of the steam pump, ranging from 1708 to 1725. It is worthy of note that it was in Devon, where the problem of draining the tin mines was acute, that the steam engine was invented

and used, though it rapidly spread to the coal areas. So great was the conservatism of the tin-miners that in 1742 there was only one engine in use. In the next thirty-six years, however, great advance was made, some sixty engines coming into use. But they were rapidly superseded by the engines of Boulton and Watt after 1778.

Ventilation was secured by having different shafts, and not extending the drifts farther than was safe for the workers from any one shaft. The drainage adits also served for ventilation till the workings were sunk below that level. The most notable device in this connection was that of sending a stream of water down the mine, and assisting the current of air that went with it by means of fans worked by boys at the top. When shafts came into use, the men reached the top by means of ladders for the most part, as the irregular workings of the mines made the rope and windlass inconvenient. These ladders entailed a great deal of labour on the part of the miners, for the maximum depths attained by means of the Newcomen engine for drainage was some 540 feet.[1]

Pottery.—The Industrial Revolution, so far as pottery is concerned, is associated with the name of Josiah Wedgwood. But in that industry, as in others, there was a period of considerable growth and expansion that prepared the way for the great master. About 1680 the modern period of development may be said to have begun with the accidental discovery of the method of glazing pottery with common salt,[2] instead of with lead ores, as had been the case. Then in the wake of William III came two men, Elers by name, who introduced the art of making red wares and Egyptian black into the potteries of Staffordshire. Their secrets were stolen from them and became common in the district. During the period Delft ware was largely made in England, among other places at Liverpool.[3] The next important advance was in 1720, when the value of flint was discovered, this time also by

[1] *V.C.H., Cornwall*, I, 545, 551.
[2] Jewitt: *Life of Josiah Wedgwood* (1865), p. 39.
[3] *Ibid.*, p. 57.

accident, by Astbury, who along with the Wedgwoods was one of the prominent potters of the Burslem district. In 1724 a patent was taken out by Redrich and Jones for a new art of staining, veining, and otherwise imitating rich stones such as marble and porphyry. In 1726 and 1732 there were two patents taken out, which removed the objection to the working of flints. Hitherto they had had to be ground dry, and the dust was extremely injurious to health. These patents were for processes whereby the flints were ground wet, and the dust nuisance removed.[1] Thus was made possible the extensive manufacture of the white wares, of which flint is the principal ingredient. In 1733 there was patented a secret for making pots chocolate-coloured on one side and white on the other, but in 1737 this was nullified by a legal decision as not being a new thing, but simply a wash that was already well known.[2]

The art of making porcelain was introduced into England before 1740. Defoe describes the porcelain works at Bow, and says they equal or surpass the Dresden ware. Liverpool was among the places where this industry flourished in the 'fifties and 'sixties. A Liverpool firm also introduced about 1752 the art of decorating pottery by transferring designs printed on paper to the surface of the fired glass.[3]

In the early part of the eighteenth century the chief wares being made in England were the ordinary coarse brown wares, the finer cane-coloured ware, Delft ware, crouch or salt-glazed wares, red wares, and the clouded mottled or marbled wares.[4] The tools were the ordinary potter's wheel, the common turning lathe, and a few cutting knives.[5] The first important new ware of Josiah Wedgwood's make also comes into our period. In 1754 he entered into partnership with Whieldon, and began to make a new earthenware with a green glaze like glass.[6] By 1761 he had perfected the body and glaze of his fine cream-coloured wares, and presented a caudle and breakfast service of it to

[1] Jewitt, op.cit., p. 61.
[2] *Ibid.*, p. 62.
[3] Wood: *Industrial England in the Eighteenth Century*, pp. 115–16.
[4] Jewitt, cited above, p. 70.
[5] *Ibid.*, p. 130.
[6] *Ibid.*, p. 119.

the Queen. She approved of it so highly that he was made "Potter to Her Majesty," and the ware was called "Queen's ware." Another set made shortly after for the king became the "Royal pattern."[1] With these steps taken on the ladder of fame, the Industrial Revolution in pottery might be said to have been fairly begun in the early 'sixties.

There was a considerable manufacture of glass in England during our period. The principal alkali used was barilla, which came from the east and was produced by burning "kaliplant." The most important feature of the manufacture about 1750 was the production of flint glass, which was much whiter and more brilliant than the ordinary. It was chiefly used for making mirrors and drinking vessels. The methods were the same as those used to-day, though modern factories have more elaborate appliances. Plate glass was not made in England till 1772, when a company was incorporated and set up a factory at St. Helens. Eighteenth-century stained glass windows are negligible. When about 1777 Sir Joshua Reynolds set about his window in New College, Oxford, the art of glass-painting was so dead that he had to employ a pottery painter to paint it.[2]

Textiles.—The technique of the textile industry falls into four divisions, the preparation of the material, the spinning, the weaving, and lastly the finishing processes, including the dyeing and printing. The first division is more important in the cotton and woollen textiles than in the silk and linen, because in the former the fibres of the wool are not very long and it has to be so prepared that it will spin readily into a strong and continuous thread. The longer fibres of linen and silk make the problem of preparation rather easier. In Lancashire, before machines came into general use, the cotton was cleaned by hand, assisted by spreading it out and beating it with a light cane to free it from any seeds that were left. It was then carded to draw the fibres into line with each other instead of being entangled in all directions. These cards were like two brushes, and

[1] Jewitt: *Josiah Wedgwood*, pp. 139–40.
[2] Wood: *Industrial England in the Eighteenth Century*, pp. 101–9.

the cotton was laid on one, while the other was drawn across it, thus straightening the fibres out for the next step in the process. The only improvement in this hand process of carding before the Industrial Revolution was the enlarging of the cards and the fixing of one in a definite position and hanging the other on a pulley with a weight to balance it.[1] As the cotton came off the cards it was given a slight twist into a loose spongy rope called a roving, when it was ready for the spinning. A carding machine was invented by Paul, and patented in 1748,[2] as was another by Bourne in the same year. But both machines lacked an arrangement for taking the cotton off the cards,[3] and were unsuccessful until Arkwright remedied the defect by means of a crank and comb, similar to what is still used on carding machines. Paul's carding machine was introduced into Lancashire about 1760, and soon afterwards was adopted, in principle at least, by the Pell family at Blackburn.[4]

The Industrial Revolution, so far as cotton was concerned, may be said to have dated from the invention of Hargreaves' spinning-jenny in 1764. Up till that time a weaver required four or more persons to keep him supplied with cotton weft for his loom. "A good weaver could keep three active women at work upon the wheel spinning weft,"[5] besides the persons employed to clean, card, and rove the cotton before it reached them. It was found easier to multiply weavers than spinners, and hence looms were often at a stand for want of yarn. Weavers had difficulty in fulfilling their contracts on time, especially when they had not enough persons in their household to supply them and had to put out the cotton to be spun elsewhere.

"At this time," says Mr. Guest, "a weaver was under the necessity frequently of trudging three or four miles in a morning and visiting many spinsters before he could collect weft enough

[1] Dobson: *Evolution of the Spinning Machine*, p. 28. (Daniels: *Early English Cotton Industry*, p. 75); also Dobson, pp. 33–5. These were called stock-cards as distinguished from the older hand-cards.
[2] Ure: *Cotton Manufacture*, I, 241.
[3] Daniels: *Early English Cotton Industry*, p. 77.
[4] *Ibid.*, p. 78.
[5] Ure, Vol. I, p. 225.

to keep his loom going for the rest of the day; and such was the competition he met with from other weavers on the same errand, that he was often obliged to treat the females with presents in order to quicken their diligence at the wheel." [1]

Spinning and weaving were like an ill-matched team in those days; the weaving continually pulling ahead of the spinning until the introduction of the spinning-jenny, and later the mule, when spinning pulled ahead and weaving lagged behind, until the application of power to looms enabled that side of the industry to pull up level, and since then the team has been working on pretty equal terms.

Jersey Wheel.—There were two spinning wheels in common use. The first is called the " big wheel " from the size of the wheel which was turned by hand, or the " wool wheel " from the fact that it was commonly used in the spinning of sheep's wool.[2] The present writer has often seen this wheel in use on the farms of Ontario, Canada, when the women of the households spun their own yarn for making socks. The turning of the large wheel made the bobbin to which the roving was attached revolve at a high speed and the spinner drew out the roving to the necessary thickness and the turning of the bobbin gave the thread the required twist. Then by a counter-revolution of the wheel the bobbin was made to revolve and the thread was wound on the bobbin, when the operation was repeated. This wheel was called the Jersey Wheel. The first spinning-jenny profitably used in England was on this principle. Many spindles, at first eight, this number afterwards increasing until there were eighty, were made to revolve by one fly-wheel, while a movable frame on which the roving bobbins were placed, alternately receded from or approached the spindles for spinning and winding the thread on the bobbins. The only change apart from multiplication of the spindles was that while on the wool-wheel the spindle was horizontal, on the jenny it was vertical. The wheel

[1] Ure: *Cotton Manufacture*, Vol. I, p. 225.
[2] *Ibid.*, pp. 225–33. There are cuts of both the wool-wheel and the early jenny which greatly assist in appreciating the working of both the hand wheel and the machine.

was still turned by hand but had a crank attached to apply the greater power more easily.

Saxony Wheel.—The second spinning wheel was commonly called the Saxony Wheel. It was the old flax-wheel. This was somewhat different from the other in that the wheel is small and turned by a foot-treadle and the thread required both hands at times for manipulation, being drawn out between the two hands before the twist was imparted to it by the turning spindle. Also the twisting of the thread and winding it on the bobbin proceeded simultaneously. Both bobbin and spindle revolved, the bobbin moving much faster and by its superior speed winding the thread on itself as it was received from the whorl of the spindle. This was effected by two pulleys, one turning the spindle and the other the bobbin, the latter being tubular and fitted over the spindle. There were two cords, running in two grooves on the wheel and connected with the whorls or pulleys of the spindle and bobbin.[1] The present writer has seen wheels of this description auctioned off recently in Inverness-shire amongst household effects.[2] The fingers of the hands were used in this process principally to equalize the distribution of the filaments and remove entanglements, and the hand next the spindle by holding the thread somewhat against the traction of the winding bobbin, served to stretch and attenuate it to the requisite degree. Thus by the uniformity, strength and fineness of the thread was the skill of the spinster estimated.

Roller Spinning.—It was on this principle that the early attempts to invent spinning by rollers were based. Wyatt and Paul in 1738 were the inventors of this machine at Birmingham, which was patented in the name of the latter in that year.[3] In this machine the roving passed through two or more pairs of rollers, each pair revolving faster than the previous ones, so that the thread was stretched thinner as it passed each pair. From the rollers

[1] Ure: *Cotton Manufacture*, pp. 235–7.

[2] This was in Kingussie, Inverness-shire, in the spring of 1920, when a friend of the writer was the purchaser. The wheel had been the property of an old person recently deceased.

[3] Ure, I, p. 237.

it passed on to spindles and was spun by the motion given to them, they drawing faster than the last pair of rollers would give, thus drawing thread out to the last degree of fineness required. The principle was suggested, says Ure, by the analogous process of drawing out metal rods by means of rollers, then in use in Birmingham.[1] For some reason, however, either because of some mechanical imperfection or lack of commercial ability, this machine was not a success, although it was used for some years in factories at London, Birmingham and Nottingham. In 1758 a further patent was secured, but soon afterwards Paul died, and the successful application of the principle was left for others—so that we may conclude that up till the invention of the spinning-jenny at Blackburn about 1764, spinning was still done in the old way with either the wool-wheel or the flax-wheel, and was the staple industry in many a cottage home, as well as the occupation of the women of homes far and wide in both weaving and spinning districts. Because of the difficulty of keeping up the supply of yarn for the weavers, wool (not cotton, however) was sent long distances from the woollen area of the south-west to northern counties like Westmoreland and Cumberland to be spun and then brought back to be woven in the south-west again.

Weaving.—The weaving of cotton was nearly all carried on by means of hand looms. The weaver stood or sat at his loom and crossed the warp by foot treadles while he sent the shuttle with the cotton weft back and forth by hand. There were three important improvements in weaving during the first sixty years of the century. The first of these was the introduction of the Dutch looms into the Manchester area. One of the characteristic products of the cotton district was narrow tapes, and to weave these by hand on the ordinary looms one at a time was a slow and tedious process. The Dutch had perfected a loom which could weave several of these narrow fabrics at once, and it was introduced into Manchester in the first quarter of the century. They represented the first power-weaving in that the shuttles were worked back and forward without

[1] Ure, I, pp. 237–8.

being touched by hand. These were called the swivel-looms. The mechanism [1] consisted of a series of shuttles according to the number of fabrics to be woven. The shuttle was longer than the width of the ribbon and was passed through by the action of cog-wheels on either side. Before the cogs on the one side lost their grip the shuttle had been caught by the cogs on the other side and was drawn clear of the warp. By reversing the action the shuttle was passed back again after the threads of the warp had been altered. This was a slow and tedious process as compared with throwing the shuttle by hand and the advantage of the machine was solely that it could weave a number of ribbons at a time. The next invention, that of the "fly-shuttle," ultimately displaced the principle of the cogs in the tape machines.[2]

Kay's Fly-shuttle.—The fly-shuttle is associated with the name of John Kay, of Bury, who invented it in 1733.[3] He had previously invented some improvements in the reeds used in the looms chiefly by using polished pieces of metal instead of the older wooden reeds.[4] The fly-shuttle was a contrivance by means of which hammers instead of hands propelled the shuttle along the lathe or grooved plane of the loom. These hammers had cords attached to a handle near the centre of the lathe, and by jerking this handle the hammer at the end struck the shuttle with sufficient force to drive it to the other end, where it was in turn struck by the other hammer. The benefit of this invention was that the second man necessary for broader cloths was saved, because however broad the cloth the hammers would drive the shuttle through the warp—and on the narrower cloths

[1] Chapman: *Lancs. Cotton Industry*, pp. 19–21. Mentioned in Stukeley, *Itinerarium Curiosum*, 1724; also Defoe: *Tour*, III, p. 268 (Ed. 1769).

[2] *Ibid.*, p. 21.

[3] The statement made by several writers and followed by Daniels, that Kay lived in Colchester at the time of his invention and until 1745, is controverted by Lord, *Memoir of John Kay* (1903), who proves by the Parish Registers that Kay lived at Bury continuously from 1725–43, e.g., Parish Register at Bury contains entries of all his children in unbroken succession from 1726–41 or 2.

[4] The reed had to vary in fineness with the quality of the work to be performed, and this variation was more easily effected in the case of metal reeds than with wooden ones.

he could work more rapidly, as he did not have to reach to either side to touch the shuttle but jerked the handle to and fro with one hand, while he drove the weft home by swinging the reed with the other. This invention does not seem to have been much used in the cotton industry before 1760, and a recent writer is puzzled to account for it.[1] It is possible that the reason may be found in the fact that spinners were scarce and many looms were not able to work full time as it was. This fact would make the weavers chary of improvements, which would mean still more idle time, and not being constantly employed it would be difficult for them to find the money for the alteration necessary to introduce the fly-shuttle. But in the woollen industry, because of the wider dispersion of the spinning, there was not such a disparity between the spinning and weaving. The industry was rapidly expanding, especially in the north, where they had begun to weave the broadcloth. The saving of the second man at these looms was sufficient inducement to the thrifty Yorkshire master to use the new device, and in doing so no great reverence was paid to the rights of the inventor and patentee.[2]

Drop-box.—When in 1760 his son Robert Kay invented the drop-box, which enabled the weaver to use any one of several shuttles containing different coloured threads without having to remove them from the lathe, the use of the fly-shuttle increased rapidly in the manufacture of cotton textiles. This contrivance is described by Chapman[3] as "a partitioned lift working at one end of the lathe and so constructed that any section of it could be raised or lowered to the same level as the lathe and thus made to form a part of it." This when combined with the fly-shuttle made the loom more complicated, it is true, but it greatly increased the speed at which the figured fabrics could be woven, and it may have been this improvement that caused its more general adoption in Lancashire after 1760, especially when in 1764 the spinning jenny did so much to redress the balance between spinning and weaving. John Kay

[1] Daniels: *Early Eng. Cotton Industry*, p. 73.
[2] *Ibid.*
[3] Chapman: *Lancashire Cotton Industry*, p. 19.

had also taken out a patent in 1745 for a power loom, but his efforts in that direction, as well as in the carding and spinning processes, met with little success.[1]

Draw-boy.—Another development was an arrangement for raising warps in groups so that figured goods could be produced.[2] This was in use in the earlier part of the century and derived its name of draw-boy—a name which attached to the fabric also, from the fact that a boy was usually employed to work it under the direction of the weaver, who probably called "Draw-boy" when he required a change of warps. Such a loom, of course, introduced greater complexity into the weaving process, so that some weavers who could not afford the expense themselves had looms mounted for them by the masters. Others had to employ "gaiters" to make the necessary changes in the reeds when they were beginning on different sorts of goods. Such was the condition of the weaving and spinning when the jenny and the mule, and later the power loom, revolutionized the cotton industry.

Cotton—Linen.—It must be noted that until after 1760 few of the cotton goods produced in Lancashire were made wholly of cotton. The spinning of cotton was not far enough advanced to have produced a thread sufficiently strong for the warp—so that the cotton goods discussed were cloths with a linen warp and a cotton weft. For this reason the weaver was furnished with warp and raw cotton. The linen yarn used was largely imported from Ireland. This mixture of linen and cotton occurs in the earliest mention of cotton in Lancashire. In a petition of 1620–1 the petitioners state:[3]

"About twenty years past divers people in this kingdom, but chiefly in the county of Lancaster, have found out the trade of making of the fustians, made of a kind of bombast or down, being a fruit of the earth growing upon little shrubs

[1] *Memoir of John Kay of Bury* (1903), by John Lord. He quotes an abstract of patents. This loom was No. 612 of that year, 1745.

[2] Chapman: *Lancashire Cotton Industry*, p. 22.

[3] Daniels: *Early English Cotton Industry*, p. 9. In 1613 also, in the grant of a patent to the Duke of Lennox, goods made wholly or partly of cotton wool are mentioned.

or bushes, brought into this kingdom by the Turkey Merchants . . . but commonly called cotton wool, and also of linen yarn."

In the early eighteenth century, curiously enough, the only place where we have reason to believe that pure cotton goods were made was at Weymouth and Melcombe Regis in Dorset. Amongst the petitions against the Act of 1721 prohibiting the use or wear of printed calicoes in England, whether printed in England or elsewhere, is one from the above borough, saying that

"for many years past a manufacture had been carried on in the said town for making cotton wool . . . into cloth of divers kinds, more particularly those fabrics that imitate calicoes." [1]

The petitioners were afraid that the proposed Act would kill this industry in their midst—a fear which was evidently realized. On this occasion the alliance of cotton with linen in Lancashire probably proved the salvation of the cotton industry and made possible the advance of a later date.

Textile Printing.—The principal development of the first half of the eighteenth century in the finishing processes of cotton goods was in connection with the printing of calicoes. About the end of the seventeenth century the increase in the use of printed or dyed calicoes alarmed the woollen interests and they secured an Act in 1700 prohibiting the use or wear of calicoes dyed or printed outside of England.[2] Almost at once there began an import of plain calicoes and muslins which were printed and dyed in England, for in 1703 further petitions for legislative interference began to flow into the House of Commons. By 1721 these could no longer be ignored and the Act of 1721 prohibited the use or wear of printed calicoes, no matter where printed.[3] From the absence of any petitions against this bill from the cotton interests of Lancashire it may safely be concluded that pure cotton fabrics in

[1] Daniels: *Early English Cotton Industry*, p. 21. Quoted from *V.C.H., Lancs.*, II, 380, and *Quarterly Journal of Economics*. This petition is from London Guildhall Lib., Vol. XX, pp. 608–13. Vol. Beta. Petitions and Parliamentary Matters.

[2] 11 & 12 William III, c. 10.

[3] 7 George I, c. 7.

imitation of Indian muslins had not begun to be made there at that time, for it was a period when petitions to Parliament were regarded almost as an obligation on those whose interests were affected. From the scope of the bill fustians were excluded, so that the fabrics of linen and cotton were free. Printing them had begun at a fairly early date, but the different affinities of cotton and linen fibres for the dyes used made even colouring very difficult. There is no doubt, however, that the Act of 1721 stimulated the printing of other fabrics such as the fustians of the north, for opposition to them came to a head about 1735. This opposition was chiefly from the woollen interests of Norfolk and led to the "Manchester Act," [1] explaining the Act of 1721 and specifically excluding the fustians from its operation.

It is evident, therefore, that the printing and dyeing industry was settled in Lancashire long before the Industrial Revolution. As early as 1704 a patent was taken out for printing, staining and colouring silks, stuffs, linens, cottons, leather and paper by means of copper cylinders.[2] In 1700 Leigh speaks of the trade of making fustians and printing them,[3] but the printing of calicoes and pure cotton goods was not settled in Lancashire until after 1760.

This phase of printing had begun much earlier near and in London. In 1690 a Frenchman took out a patent for painting and printing calicoes, and opened a factory near Richmond, which was the first calico printing factory in England. In 1694 another was opened at Bromley Hall, in Essex, and it was this factory which stood as No. 1 on the excise books when the tax was imposed first in 1712. In 1694 it was said the trade employed 400 people. This industry went on until after the first Sir Robert Peel had made calico printing one of the prominent industries of Lancashire. The trade in Surrey dragged on in a crippled condition until the last mills were closed about 1850.[4]

[1] 9 George II, c. 4.
[2] Espinasse: *Lancashire Worthies*, Sect. 2. Also *V.C.H., Lancs.*, II, 395.
[3] *Natural Hist. of Lancs.*, Book III, 15 (1700).
[4] *Eng. Hist. Review*, April, 1924. P. J. Thomas: *Beginnings of Calico Printing in England.*

The natural advantages of Lancashire as the place of manufacture of the cotton cloth, the lower rent of bleaching grounds, and the cheaper living for workmen, all combined to attract the industry to Lancashire.[1] The invention of the flat press in 1760,[2] which meant considerable development, was followed by cylinder printing. Thos. Bell took out patents for that process in 1783, and it was successfully applied in 1785 at Mosney, Prescot.[3] It was the Peel family, however, that built up to a great extent the printing of calicoes in Lancashire. "They were to printing what Arkwright was to spinning."[4]

Wool.—The woollen industry processes remained the same for several centuries. Until the invention of Kay's flying shuttle in 1733 and its adoption in the worsted trade there were few developments in the processes, and the changes had been mainly in the direction of improving the organization of the business. When the wool came in the fleece, the first process was to have it sorted. There were short and longer wools, finer and coarser in the same fleece. This business fell mainly to the stapler,[5] especially in the south-west and the east, where there had been greater progress in division of labour than in the north. The wool was then cleaned, and if for mixed cloth it was dyed.

Carding.—The next process was carding or combing. If the wool was for ordinary woollens or broadcloths it was carded, and if for worsteds it was combed. The carding was somewhat like the carding of cotton. Postlethwayte thus describes the card:

"It was a sort of instrument or comb composed of a number of small pieces or points of iron wire, a little incurvated like hooks towards the middle and fastened very closely together by the feet in rows. A piece of thick leather which keeps them fast is nailed by the edges on a flat piece of wood which is about a foot long and six inches wide with a handle placed in the middle on the edge of the longest side."[6]

[1] Ogden: *Descr. of Manchester*, 1783.
[2] *V.C.H., Lancs.*, II, 395. [3] *Ibid.*
[4] Daniels: *Early English Cotton Industry*, p. 22, note. See also *Report of Committee on Manufactures, Commerce and Shipping*, 1833, p. 237.
[5] Heaton: *Yorkshire Woollen and Worsted Industry*, p. 332.
[6] Postlethwayte: *Univ. Dict. of Trade and Commerce.*—Article, "Cards."

The wool was placed between two of these and worked together into a sort of mat so that all the fibres were tangled together. The strength of the yarn, and therefore of the cloth, depended on how thoroughly this entangling of the fibres had been done.[1] As the wool came off the cards it was twisted into a loose spongy roving similar to the cotton roving and was then ready for spinning.

Combing.—The combing process was with similar instruments but with a different object. The strength of worsted depends on the hard smooth spinning of the thread, not on the entangling of the fibres, and for worsteds only the longest fibre wool is chosen. The combing was intended to straighten out all the fibres and lay them as far as possible parallel to each other. Combing was most unhealthy because it was carried on in closed rooms in which were charcoal stoves for the heating of the combs. The fumes from these stoves had ill effects on the health of the workers.[2] It was a highly skilled operation and the wool-combers were looked upon as the aristocracy of the wool-workers. It was not till the introduction of worsted manufacture into the north that these workers made their appearance there in the first part of the eighteenth century. Rochdale, Burnley and Colne became the Lancashire centres of their work.

Spinning.—For the spinning, the wool-wheel described above was the usual instrument but the distaff was also used occasionally.[3] Spinning was taken far afield. There was an even greater disparity between spinning and weaving in the woollen industry than in the cotton, because we read that a woollen weaver could keep ten spinners busy,[4] while the cotton weaver needed three or four. Even after the hand jenny began to be used the woollen weaver kept four spinners busy supplying him with yarn. This difference was, of course, partly due to the fact that the cotton spinners had only to supply weft, while the wool spinners had to spin both warp and weft to keep up with the weaver.

[1] Heaton: *Yorkshire Woollen and Worsted Industry*, p. 333.
[2] *Ibid.*, p. 334.
[3] *Ibid.*, p. 334.
[4] *Ibid.*, p. 338.

One defect that domestic spinning, both of cotton and wool, was subject to, was variable quality. Some of the spinners were children who were just learning and whose work would vary greatly from day to day; while at the other end of the scale were the skilled women of many years' experience. A bale of yarn might contain all grades between those two extremes.

Weaving.—The weaving was done by the hand-loom with a lathe wide or narrow according to the cloth intended to be woven on it. The broader looms required two men to work them. One man could only weave a cloth as wide as he could conveniently reach, as he had to throw the shuttle through the warp with one hand and catch and throw it back with the other. When Kay invented his fly-shuttle it was eagerly seized on by the makers of the broader cloths, because it saved the labour of one man and made faster work possible. Some years of Kay's life were largely spent in litigation with these Yorkshire manufacturers who were infringing his patent.[1]

Fulling.—The next step in the process was that of fulling and tentering or stretching. Fulling or milling was the process of working the cloth into a close mat of fibres, a process which was not so necessary with worsteds, for they, as noted above, depended for their strength on the smoothness and hardness of the spun thread. But with the carded and more loosely spun woollens fulling was an important step in the process of making the cloth a good wearing fabric. When milled, the cloth was thoroughly scoured with fuller's earth and soap to clean it. The fulling mill is thus described by a writer in 1766.[2] "Fulling is performed by a water-mill much like a corn-mill, and in some places both in England and France there are mills that serve for both purposes. The wheel gives motion to the

[1] It was probably the litigation on this question and the frequency with which his name would appear in the Leeds records that gave rise to the idea that he lived there for some years. John Lord has proved pretty conclusively from the parish records that he was domiciled continuously in Bury till 1753; though no doubt he made frequent and prolonged business trips through the textile areas to sell his reeds and shuttles.

[2] Postlethwayte: *Univ. Dict. of Trade and Commerce.*—Article, "Fuller's earth."

tree or spindle whose teeth communicate it to pestles or stampers which pound the cloth in troughs, thus condensing, thickening, the cloth." The fuller's earth had the property of absorbing the oils and grease so freely used in the preparation of the wool and of the yarn, thus helping to cleanse the cloth although a proportion of soap was also used.

Tentering.—The last step was the tentering or stretching. Tenters were frames on the ground by means of which the cloth was stretched after milling and scouring, to the extent desired or allowed. It was in this process that fraud was most easily practised and much of the Government and Trade Regulation was designed to prevent weavers from stretching the cloth unduly before sale.

Linen.—The pressing problem in connection with linen was that of bleaching. The finished linen of Scotland and Ireland was met in the English market by the fine products of Holland, Germany and France. During the sixteenth century there were efforts made by the authorities in both Scotland and Ireland to encourage the manufacture and to raise the standard of the technique. A writer who was intensely interested in everything that tended to increase the manufactures of the country says that for a long time the imperfections of the British linens were due to the badness of the flax, but that since they had adopted the Flemish method of raising and managing flax they had greatly improved the bleaching.[1] The foundation of the British Linen Bank in 1746 marks the great efforts made in Scotland to assist the establishment of the industry and helps to date the improvements. At the time he was writing they were "daily making advances in both Scotland and Ireland." He was advocating more careful selection and preparation of the salts and water used in bleaching.

Silk.—The notable thing about the silk industry, which was established in many places in England, such as London, Derby, and Stockport, during our period, was the introduction of power machines for throwing the silk. This machine was set up at Derby, and was the wonder of tourists

[1] Postlethwayte: *Univ. Dict.*—Article, "Bleaching."

during the later part of the first sixty years of the century. It had been brought from Italy by Sir Thomas Lombe, says Defoe, and he secured a patent from Parliament in 1720, for the erection and working of the machine in England. Financial and other difficulties prevented him from getting it into working order before the expiration of the fourteen years, so that Parliament paid him £14,000 for his trouble, on condition that he would allow copies to be made on the machine for the general benefit of the manufacture.[1] This machine was for the fine silks in imitation of those made in Italy. The Turkish silk was not fine or strong stapled enough to be twisted into warp, and so was used for the weft of damasks, for silk stockings, gallons, and gold and silver lace. The heavy duty on Bengal and Chinese silks prevented them from being used in the English manufacture.[2]

Hats.—In the hat industry, the hair of beaver, goats, and other animals was used. The cleaning was effected in a primitive way, like the picking of cotton with a bow-string. This also served the purpose of working the hairs gradually into a mat, which was slowly shaped into the conical form required. The remainder of the process was concerned with thickening and shaping this hat to the mould, finally stiffening the shape with glue, after it had been dyed in large vats that would hold some dozens of hats at once. The hats were then ready for brushing, ironing, and finishing for the market.[3]

[1] Defoe: *Tour*, III, 734 (Ed. 1769).
[2] Postlethwayte: *Univ. Dict.*—Article, "Bleaching."
[3] *Ibid.*, Article, "Hats."

CHAPTER VII

ECONOMIC ORGANIZATION OF PRODUCTION

Course of Economic Evolution.—The gradual expansion of the organization by which the economic needs of mankind have been supplied may be said to have proceeded from the early village or manorial economy, through that of the town regarded as the economic centre of a district, and later through the national economy, to the present international economy. In other words, the unit of economic self-sufficiency has been successively the village, the town, and the nation, and in the last century the economic interdependence of civilized nations has become firmly established. But the actual evolution, at least in England, was not so simple as would thus appear. For these stages of development merge into each other so gradually that no clear line of division is possible. Again, two forms of organization will exist side by side in different industries, and sometimes even in the same industries, as, for instance, the homespun domestic Harris tweeds of the Scottish Highlands and the highly developed factory woollen industry of the Borders.

In England.—Thus from the conquest to the opening of the fifteenth century we have in England the manorial economy existing alongside a steadily growing town economy, with a gradually strengthening centralized government exerting its control over both. The manorial system in England broke up early, but on the other hand English towns did not at first hold a high place in European trade. They took their rise, commercially, as places of trade for the surrounding districts, or parts easily accessible. Gradually, with the increase of security and population they became

the abodes of retail merchants, and craftsmen of the gilds. Thus we learn that about 1300 retail trading, but more especially manufacture,

"was in fact the mainstay of the Mediæval Londoner. He lived by producing and selling objects of demand rather than by financing others or carrying goods. Though we hear of wealthy shipowners, the small cogs and barges of the city of London were not more numerous than those of Plymouth, Fowey, and Bristol, and the bulk of the carrying trade seems to have been done by foreigners." [1]

By the end of the fifteenth century, parallel with the breaking up of the manorial system as a method of agricultural management, and the final establishment of London as the political capital of England,[2] the merchant adventurers of the leading towns gained a footing in the export trade to the Continent, chiefly in the woollen trade, based on the manufacture of the wool produced on English farms. With the dawning of the great period of discovery, Elizabethan sea rovers made a successful bid for a share of foreign trade, and so laid the foundations for the enormous expansion of later times. As London had already become the political capital, she now dominates the economic life of the nation, and becomes the centre from which overseas enterprise was financed and to which the new wealth from foreign trade flowed.

Thus England's growth as a commercial power preceded her growth as a manufacturing nation. The national policy of Elizabethan and Stuart times was based on this commercial growth, and their domestic legislation was to give effect to the policy of increasing man power and sea power, production of home necessities, and accumulation of treasure. With the opening of the eighteenth century England began to develop her productive capacity. Improving landlords and tenant farmers, by the adoption of new methods, and by pushing enclosures, were rapidly increasing the food produce of the nation. In industry we see the localizing

[1] *Transactions of the Royal Hist. Soc.*, 1921. 4th Series, Vol. IV, p. 90.
[2] See the brochure by Tout: *The Beginnings of a Modern Capital.* Published by Manchester University Press, 1924.

of staple industries in the provinces, their growth aided by the attitude of the government toward the worker, and by a rigidly protective tariff.

In this rapid growth of eighteenth-century industry, the directing force was the merchant, and of these the London merchant, largely preoccupied with export, was easily pre-eminent. Naturally, the worker tended to lose his independent status, especially as the Parliament swung over to the support of the wealth-accumulating merchants. Thus he became more and more merely a handworker, producing not for the consumer direct, but for the merchant, and hence more and more economically dependent on the merchant. Thus the way was paved for the wage-earning masses, upon whose shoulders the factory system is borne. Accompanying and accelerating this change was the loss of control over industry by the autonomous corporations of the towns. These industries slipped away from the irksome control of the gilds into the country districts, a change welcomed by the London merchants in particular. The advent of steam power and complicated machines changed the workmen's economic master. He became the employee not so much of the merchant who owned a warehouse, as of the machine-owning capitalist, and worked not in his own home but in the factory of the capitalist.

Yet there remain even to-day survivals of the domestic system, such as the weaving of homespuns in the Highlands of Scotland, the knitting of the Western Isles, and some of the small wares manufactures of Birmingham.[1] So long as manual skill remains the chief factor in the production of an article, some phases of the domestic system will remain, however much the capitalist may organize the supply of material, the movement from process to process, and the marketing of the finished article. But as soon as a machine has been made that will replace manual skill by mechanical accuracy, factory production will predominate.

Industrial Revolution a Transition.—On the eve of the Industrial Revolution, industry in England was feeling

[1] See Unwin: *English Industrial Organization*, for details.

the impetus of commercial expansion. Foreign trade was in process of being quadrupled within a century,[1] and home trade was no doubt increasing at a similar rate. Industry could not respond much further to the commercial expansion unless improved methods of manufacture could be found. Men interested in iron production were searching for a means of smelting iron ore with coal, in order to obviate the difficulties caused by the diminishing supply of wood. Others were struggling with the difficulties of drainage and ventilation in the mines and of transport at the surface. Those interested in textiles were searching for some means of redressing the balance between spinners and weavers. We have already seen how in the pottery manufacture such basic discoveries as salt glazing, and the use of flint, had been made in the first forty years of the century, thus preparing the way for the further discovery and organization for which Josiah Wedgwood was responsible. What we call the Industrial Revolution was then the transition from the domestic system of industry, which answered the needs of the national economy, to the factory or mass production system necessary if Britain were to become the workshop for her neighbours. It would, therefore, be truer, perhaps, to attribute the inventions to the transition, and the forces behind it, rather than to attribute the transition to the inventions, as is popularly done.

Industry Domestic in Eighteenth Century.—Industry in England in the early part of the eighteenth century was mostly on a domestic basis, either because of the natural conditions or the nature of the operation. The coal mines, for example, required the gathering of a number of workmen into one place. The leasing of the mine, the payment of wages till it became productive, and the cost of necessary equipment all made for a capitalistic organization. In the coal industry, therefore, the coal owners had already become the main persons in the organization, and production was on a wages basis, the miners owning nothing except their labour. Similar conditions obtained with regard to the iron and copper mines. Lead-mining in Derbyshire

[1] Westerfield: *Middlemen in English Business*, Introduction.

and tin-mining in Cornwall were on a free basis ; discovery of the metal carried with it the right to work the discovery regardless of the landlord ; but even here, in the eighteenth century, with the deepening of mines and the increasing expense of equipment and operation, the small master was disappearing before the capitalistic mine owner.[1]

In other cases, the nature of the operations made it necessary to congregate workmen in one place. In the calico printing works near London the necessary combination of processes made a capitalistic organization inevitable, especially as water power was used. About 1720 the leading printer had 152 people working for him in one factory.[2] The blast furnaces for iron, the smelting houses for copper, tin, and lead, were such as to require a good deal of fixed capital, and the employment of a number of labourers on a wages basis. In some of the iron industries also, the later factory system was anticipated. The notable examples of this are the formation of the Soho Works at Birmingham, the Carron Iron Works in Scotland, and the works of the Darbys at Coalbrookdale.[3]

A third class of works that had taken on capitalistic organization consisted of those in which non-human power had been adopted. The earliest types of this class were the corn mills and the fulling mills, which were run by water. But the true representative of the new factory type was the silk mill at Derby, where the introduction of complicated machines made power necessary, and where the workpeople had to come together to attend the machines. The introduction of the swivel loom into the cotton industry was the first step towards power machinery. Defoe says that within three miles of Manchester there were sixty water mills, and as these are mentioned in connection with the Dutch looms, the inference is that the water mills were largely used in providing power for these machines.[4]

Apart from such examples as those above, however,

[1] Westerfield : *Middlemen in English Business*, p. 250.
[2] See P. J. Thomas : *Eng. Hist. Review*, April, 1924. " Beginnings of Calico Printing in England."
[3] Carron Works, 1760. Coalbrookdale, Smelting Coke, 1735.
[4] Defoe : *Tour*, III, 252 ; Derby. Silk Mills, 1719 (Ed. 1762).

industry in England in the early eighteenth century was domestic. The salient feature of the domestic industry is implied in the name. The unit of organization is the household; the workman is his own master, working in his own home, superintending the work of his household, which besides his family would include his apprentices and his journeymen. As the household was the unit of industry, the head of the household, the master-workman, was the pivot of the organization of production. The economic factors in production are the supply of raw material, the control of fixed and circulating capital, management and labour, and lastly the marketing of the product. Under the domestic system in its purest form, the performance of all these functions would be centred in the master of the household. But there is a tendency for these economic provinces to be invaded by merchants and other capitalists, especially in the case of supplying raw material, and the marketing of the product. There was also a tendency for a merchant middleman, or for the master of one of the processes, to acquire ownership of the material throughout all the processes, so that circulating capital was liable to pass out of the hands of the master-workman. But so long as the control of fixed capital and the work of management centre in him, the industry can accurately be described as domestic. It will be our purpose in the present chapter to examine the first three of these factors and see how far the small master had kept or lost control before the coming of the new machines, leaving the marketing to be dealt with under the organization of distribution.

The simplest organization for the supply of raw material was that whereby the workman produced all or part of the material required, and in any case, bought from the actual producers, in his neighbourhood. But this simple organization was modified almost as soon as there was any expansion of the market or attempt to produce a finer quality of goods.

Middleman brings Commercial Capital.—Textiles play an important part in economic history, and provide excellent illustrations in the changes in the organization of

the industry. There were two important modifications in the system, and both were introduced at an early date. The first is the intervention of the middleman between the producer of raw material and the textile workers. The other is the tendency of the workers at one process to become employers of the workers in other processes of the same industry.

Into Woollen Industry.—In the woollen trade two factors encouraged the growth of the middleman function. It was not economical for the producer of only one kind of cloth to buy wool in the fleece, because only part of the fleece was suitable for his purposes. He wanted either the long or the short wool, the fine or the coarse. So there arose the stapler whose business it was to sort the wool into its various grades and sell them to the clothmakers who required them. Accompanying this necessity for sorting the wool was the fact that spinning was necessarily spread over a much greater area than the weaving, since a good woollen weaver could keep ten spinners busy. A writer in the 'sixties of the eighteenth century thus described the extent of the circulation of wool and yarn.

"The fine fleece wool of Lincoln, Leicester and Northants is carried on pack-horses south to Cirencester and Tedbury in Gloucester where it is bought up and afterwards made into yarn for the clothiers of Wilts, Gloucester and Somerset, to mix with the fine Spanish wool in making their broadcloths; eastward the same is carried into Norwich and Bury . . . and northward to the farther parts of Yorkshire and even into Westmoreland and Cumberland where it is made into fine yarn which is brought up to London to the amount of at least 100 horse-packs a week for the making of fine druggets and camblets in Spitalfields. The surprising quantities of wool produced on the spacious plains of Wilts, Dorset and Hants are carried into the counties of Somerset and Devon. In some parts of Somerset it is mixed with the long staple wool of Lincoln; in other parts, and in Devon, with the Irish wool for the perfecting of their fine serges, stuffs and druggets. There is likewise a very great quantity of fell-wool [1] sent from London to Colchester, Bocking, Braintree and all other parts of Essex where the bays trade is carried on." [2]

[1] I.e., wool taken from the skins of sheep after they have been killed.

[2] Postlethwayte: *Univ. Dict. of Trade and Commerce.*—Article, "Britain."

The other factor was one of time. The wool-clip of the year was ready for market within a few weeks; and to hold it long for market was unprofitable for the farmer because of the interest charges on capital. On the other hand the small producer of cloth usually had not sufficient capital to purchase his supply for a year all at once. The farmer wanted a quick sale for his year's clip. The clothier wanted a dealer from whom he could buy in small quantities as required. Hence arose the wool-buyer who bought in large quantities at certain seasons and sold in small quantities to the clothiers the year round.

Into Cotton Industry.—In the cotton industry the need for the middleman was still more urgent. The yarn for the linen warp had to be brought from Ireland or North-Eastern Europe,[1] while the cotton had to be bought from the merchants who were responsible for its import from abroad. Until the cotton trade with America began, most of the cotton entered England via London from the Levant, although there was a good deal entering through Liverpool during the early eighteenth century and also through Whitehaven and Lancaster. The cotton entering via Liverpool, Lancaster, or Whitehaven was from the West Indian Colonies and South America, which were rapidly supplanting the Mediterranean countries as a source of supply. This fact of the foreign origin of raw materials in the cotton industry resulted almost from the first in a capitalistic organization.[2]

In the seventeenth century some prominent Manchester merchants were the Tippings, Mosleys and Chethams. From their accounts, the Chethams are seen to have at least financed the workers if they did not actually employ them.[3] Thus it will be seen that the merchants at a fairly early date began to control the material throughout the processes, though the fixed capital remained in the control of the workers.

In Lancashire there were three branches of manufacture; the fustian makers, check makers and the worsted small

[1] Daniels: *Early English Cotton Industry*, p. 58. In Lancashire English and Scotch Yarn Linen were little used.
[2] *Ibid.*, p. 57.
[3] *Ibid.*, p. 36.

wares men. There were no doubt small independent producers, especially in the fustian trade, until the development of the factory system, but it is doubtful if they were numerous or typical of the industry in the mid-eighteenth century. The merchant who imported the cotton wool and linen began to supply the material and pay piece rates for spinning and weaving instead of selling to producers on credit, and buying back the cloth. Thus arose the system of "putting out" [1] which is characteristic of the domestic system under the dominance of the merchant-clothier or merchant-manufacturer of cottons. In the neighbourhood of Manchester the merchants did their own putting out, but in the more remote districts they employed "putters-out" on commission. These resided in the district where the employees lived, and were responsible for the distribution of the warp and wool, the collection of the finished goods, and the paying of the workers. Guest says this development took place about 1740, but this is probably much too late, as Aikin refers to the use of warping mills in the seventeenth century.[2] Chapman concludes that "somewhere about the beginning of the eighteenth century a strong centralizing tendency asserted itself and that it was assisted by the economies associated with centralized warping after the invention of the warping mill."[3] For a time also the merchant gave out copts of weft as well, but as it was difficult to detect faults till the cloth was woven, and the defect might be due to spinning or to weaving, the merchant began to give out the raw cotton with the linen warp and make the weaver responsible for the cleaning, carding, roving, spinning and weaving. It would thus be possible to hold the weaver responsible for defects without regard to the process in which the fault lay. After machine spinning and carding arose the merchant again resorted to the custom of giving out weft as

[1] In the watchmaking industry of Lancs. the same system prevailed. Work was put out by the manager on Monday and collected from the jobmasters on Saturday, parts assembled and later sent to customers.—*V.C.H., Lancs.*, II, 366–7.

[2] Guest: *Hist. of Cotton Manufacture*, p. 8; also Aikin: *Hist. of Manchester*, pp. 182–3.

[3] Chapman: *Lancashire Cotton Industry*, p. 15.

well as warp, because he could be reasonably sure of uniform quality. A further development of this control by the merchant-middleman was the rise of a second-rate class of merchants called "fustian masters." They resided in the country districts among the weavers, gave out materials and employed the weavers to do the work. They were really independent "putters-out," receiving their reward, not in commission from the Manchester merchants, but in profit on the cloth they sold.[1] The conclusion drawn by a recent writer on the subject is that

"even if it be true that before the first part of the eighteenth century the greater proportion of the fustian weavers were semi-independent producers . . . by the middle of the century they were certainly the workpeople of capitalist employers as probably many of them were before that time." [2]

This organization is really the counterpart of the merchant-clothier organization in the woollen industry. The greater part of the clothing trade in the eastern and south-western districts was on a capitalistic basis. Defoe's description of the south-west illustrates this organization.

"These towns as they stand, thin and at a considerable distance from each other . . . are interspersed with a great number of villages, hamlets, and scattered houses; in which, generally speaking, the spinning work of these manufactures is performed by the poor people. The Master Clothiers who generally live in the greater towns, sending out the wool weekly to their homes by their servants and horse, and at the same time bringing back the yarn they have spun and finished which is then fitted for the loom." [3]

The weaving would thus seem to have been concentrated in or near the larger towns.

Yorkshire Domestic Industry.—The more independent type of domestic manufacture from the standpoint of supply of raw material was found in West Yorkshire in the woollen industry. All the descriptions we have of the woollen trade of West Yorkshire in the eighteenth century agree that the clothiers as a class were small, independent producers,

[1] Aikin: *Hist. of Manchester*, p. 158.
[2] Daniels: *Early English Cotton Industry* (1920), p. 39.
[3] Defoe: *Tour*, Vol. II, p. 39 ff. (Ed. 1769).

owning not only their fixed but their circulating capital. The middleman was present, but he remained a middleman, selling wool or yarn to the clothier who supervised most of the processes and who sold the finished goods in the open market or to a commission agent of some distant firm. The persistence of such markets as the Brig Market at Leeds, and the other free markets in cloth halls throughout West Yorks, furnishes evidence of the continued independence of the woollen manufacturer in the eighteenth century. In places where the spinning was done in the immediate neighbourhood of the clothiers the spinners called at their employers' houses for the wool and returned the yarn when spun.[1] In the spinning, however, the " putting-out " system prevailed. The distributing agent was sometimes a farmer or a shopkeeper, but most frequently a woman of the spinners, who thus added to her income.[2]

Industrial Capital Extends Control.—Besides the tendency for commercial capital thus to enter the industrial sphere and bring about a partial dependence of the small manufacturer, there was a similar tendency for masters to employ others of the same craft to work for them.[3] A successful weaver might have more work than he could overtake and would let some of it out to his less fortunate neighbours. In this way he would build up control over a certain number of workmen, though they still went on working in their own homes. In the same way men engaged on one process tended to become employers of those engaged in other processes. For instance, there is the employment of the spinners and rovers by the weavers. This was common in the cotton industry in the eighteenth century, when the merchant gave out the warp and raw cotton to the weaver, and he had to get it carded, roved and spun before he could finish his own contract. This applied particularly where the weaver had only a small family, who could not do enough work to keep him busy. Woollen

[1] Heaton, op. cit., p. 336.

[2] Heaton: *Yorkshire Woollen and Worsted Industry*, p. 336; also James: *History of the Worsted Manufacture*, pp. 311–12.

[3] E.g., *Economic Journal*, Dec., 1906. Prof. Clapham speaks of Greenwood, a woolcomber near Haworth, who bought wool, combed it, had it spun, and then sold the yarn (1672–79).

weavers, so far as they could get spinners near their homes, were employers of the spinners. When the wool had to be sent long distances to be spun, however, the tendency was for a commission man to undertake it or the weaver bought the yarn from a yarn merchant. Another example was found in the employment of the fuller by the weaver. The owner of a fulling mill usually worked on custom for the clothiers round about and thus became dependent on them. He employed no circulating capital, except that necessary for his fuller's earth and soap and wages for any helpers he might require, and he received a fee for each piece of cloth milled. By the middle of the century, too, some of the masters had increased their business so as to employ several looms. Such small aggregations of workmen under the one employer had already begun to be called shops. In some cases, the shop may have been an enlarged weaver's shed capable of holding several looms; and in some it was simply a group of those who worked for the one employer.[1] These various considerations—the interference of the merchant-middleman in the supply of raw material—the employment of some workmen by others, and the enlarging of the scope of individual masters' operations, added to the growing custom of merchants or masters setting up the more complicated looms for their employees, produced economic relationships very much like those of modern days. Daniels discusses at some length some labour disputes of the late 'fifties of the century, which show that in the cotton trade wage-earning employees, who were in their turn employers of apprentices and journeymen, were numerous enough to have formed combinations. He sums up:

"Sometimes it is implied that the transition from the domestic system as it existed early in the eighteenth century to the factory system involved a great change in economic relationships, almost that it marked the emergence of the capitalist employers. If disproof of this view were required this account

[1] *The Small Wares Weavers' Apology.* A document published during a trade dispute in 1756. Daniels, p. 44, thinks that the shop was probably the place where the work was given out and taken in, rather than a workshop.

of the disputes in the small ware and the check trades in Manchester, a generation before factories definitely appeared in the district, would do something to supply it. The fact is, of course, that the domestic system was a system of capitalist employers, and the typical workpeople were in every essential respect related to their employers in the same way as after the factory made its appearance." [1]

He goes on to point out that the essential changes made by the factory system were: first, that the employers' capital came to be embodied not only in the materials (the circulating capital), but in the fixed capital—the plant and machines as well; and second, the gathering of the workpeople under the one roof, for all the operations. Here again, however, an effective contrast is provided by the small clothier of the Yorkshire Woollen Trade. There the typical small master, with his family, one or two apprentices, and one or two journeymen continued to carry on the business on an independent basis till near the end of the century, except for the wool-buyer on whom they depended for their supply of wool or yarn.

Such developments had given rise to middlemen in the organization of production. In the cotton industry these were mainly the merchants and their putters-out. The merchants bought the cotton and linen and employed weavers to manufacture for them and dyers and printers to finish for them. The "putters-out" were commission men, by means of whom the merchants kept in touch with a large body of workers. The yarn merchants also played a part in supplying the raw material, more particularly the linen warp, but they deal largely with the employing manufacturers.

But since wool was produced in the country the middleman function in that industry was somewhat more extensive. There were various classes of wool-buyers whose functions were not very clearly differentiated.[2] The most specialized was perhaps the brogger, or broker, who habitually acted as the agent for a large buyer of wool for export or for transfer

[1] Daniels, p. 54.

[2] This descriptive summary of the organization of the woollen cloth manufacture so far as it concerns the middleman is based on Westerfield: *Middlemen in English Business*, 1660–1760 (1915).

to the clothing districts. The jobber, or merchant, was closely allied with the brogger on the one hand and the wool-stapler on the other. He bought large quantities and stored them for sale at different periods; hence he required large capital and extensive connections. The wool-stapler was similar, but he added the function of breaking the packs and sorting the wool according to the staple, so that manufacturers could be supplied with various kinds as well as with suitable quantities. The next important class was the yarn merchants, who owed their existence to the localization of spinning and weaving. Their function was to distribute the wool to the spinning districts, collect the yarn, and sell to the clothiers in the weaving districts.

Clothier in South, West and East.—The central figure in the cloth industry everywhere except in West Yorkshire was the clothier. He was more a middleman than a manufacturer, because he had abandoned the actual trade of cloth-worker. But he organized the manufacture, and the materials underwent extensive alterations while in his possession. He organized the distribution of the material, the labour and the manufacture of the cloth. In the western district the clothiers' business was most highly organized and most nearly approached the factory system. There

> "they appear to have reached the acme of their renown and importance between 1690 and 1760, after which they declined rapidly with the progress of the Industrial Revolution and the migration of industry to the north." [1]

Merchant in North.—In the north it was not the clothier but the merchant who dominated the scene. In spite of the poverty of the north-country cloth-worker he retained his independence in a remarkable degree, but his poverty favoured the growth of the merchant-middleman, who sold him his raw material and bought the product at the open markets. The cloth production here for different reasons had migrated from the towns to the country districts, and most of the masters, as we have seen, were also farmers on a small scale.

[1] Westerfield, pp. 273–4.

The manufacture of the eastern district was the oldest, due perhaps to its proximity to the Continent. But during the first half of the century its decline began. By 1750 the Surrey clothing trade was practically at an end. In this district the differentiation of the weaver, clothier and merchant had never been completed.

"Some weavers employed spinners, carders, dyers, etc., and sold their cloth. Some clothiers employed in addition weavers and the other craftsmen who finished the cloth. Other clothiers employed only the finishers, buying in the grey from the weavers." [1]

This is ascribed to the nearness of the London markets and the presence of the exporting towns of the eastern counties.

Fixed Capital.—The preceding discussion will have made it clear that while there were considerable variations in the control of circulating capital, the fixed capital remained in the hands of the master-workman. He carried on his work in a building, usually a house owned or leased by himself, with tools or machines that were his own property. The looms were simple of construction in the early part of the century, and frequently were made by the village carpenter,[2] though there was a separate trade of reed-making, for that part of the loom.[3] In the more concentrated weaving districts loom-makers were found. The cards were simple instruments and were doubtless made at home or by some local workman. Spinning wheels were also of local manufacture. When draw-boys and the Dutch looms were introduced, loom-making became a more complicated business and therefore more specialized. The Dutch looms were sometimes made at a distance from Manchester, for in 1753 we find a Staffordshire man advertising two Dutch swivel looms for sale, and offering to supply as many more as might be required.[4] Evidently

[1] Westerfield, p. 295.
[2] Heaton: *Yorkshire Woollen and Worsted Industry*, p. 340.
[3] It will be remembered that John Kay, the inventor of the Fly-shuttle, was a reed-maker by trade, and is so described in most of the patent abstracts.
[4] *Manchester Mercury*, June 12, 1753.

a mechanic had adventured some capital in the manufacture of these two looms, and was seeking a market for them.

Besides the looms, the cards, and the spinning apparatus necessary, the woollen master usually had a dye-vat of lead which was kept outside the house, sometimes in a small dye-house. In this the wool was dyed, before being spun. To many of the houses a loom-shop was attached, but where this was not the case, the loom was placed in the least inconvenient place in the cottage. In 1770, near Stockport, we are told that cottages with a convenient loom-shop and a small garden rented at from 1½ to 2 guineas per annum.[1] Further up the country round Rochdale we have the farmer-manufacturer's buildings described.

"Both farmers and cottagers in the neighbourhoods of Bury and Rochdale were at that time engaged in the flannel manufacture. Many of these would be both makers of cloth and sellers. It was about this period that the large and roomy stone buildings which are so frequently met with in the neighbourhood of Rochdale were erected. There were large rooms over the living quarters, and these were the work-rooms. A farmer generally had three or four looms." [2]

Stone houses were common everywhere on the slopes of the Pennines, but brick and stone had replaced wooden houses almost everywhere throughout the clothing area of Yorkshire and East Lancashire. The large upper room, spoken of above, often had an external staircase, and a door through which the wool was taken, thus keeping it separate from the actual living quarters. But such would be only in homes of the more well-to-do yeomen. In the smaller houses the loom would have to find a resting-place either in the living-room or the sleeping-chamber. As in the cotton area, however, a long low shed was frequently erected in which the looms were set up.

Domestic Industry and Agriculture.—Connected with the consideration of fixed and circulating capital there is the question of the link between the textile workers and the pursuit of agriculture. Some writers emphasize one

[1] Radcliffe: *Origin of Power Loom Weaving*, pp. 59–60.
[2] Bamford: Introduction to *Works of Tim Bobbin*, Ed. 1850.

phase of the connection and some another, but from the evidence there would seem to have been three more or less distinct classes engaged in the manufacture of textiles in Lancashire. There were first of all the smaller yeomen who were real farmers, and who engaged in textile only in so far as was necessary for the time of the women and children of the household to be fully employed, and to provide work for the men in the intervals when farm work was not pressing. The second class was probably made up of the still smaller yeomen and the tenant farmers on the typical small farms of Lancashire in that period. For this class their main source of subsistence was manufacture, and they only cultivated their land in the intervals when there was an insufficient supply of material for the looms or the spinners. Radcliffe's description of the township of Mellor is widely quoted, but it illustrates this point.

"In the year 1770 the land in our township was occupied by between fifty and sixty farmers . . . and out of these not more than six or seven raised their rents directly from the produce of their farms; all the rest got their rent partly in some branch of trade, such as spinning and weaving wool, linen and cotton. The cottagers were employed entirely in this manner except for a few weeks in harvest time." [1]

The third class of worker was entirely dependent on his labour for subsistence, and except for a few weeks of unusual demand in harvest for agricultural labour, he was dependent on his work as a labouring manufacturer. This third class would provide the greater number of the mere wage-earners in manufacturing, as they had no land in their possession except a few yards of ground at the cottage door for a garden.

It is difficult to draw a dividing line between the first two classes. Tastes and capacity would probably cause one family to become dependent mainly on farming, while similar causes would tend to make some of the real farmers mainly dependent on manufacturing. According to Radcliffe, only about ten per cent. of the farmers were farmers alone, but it is impossible to estimate from his description

[1] Radcliffe: *Origin of Power Loom Weaving*, pp. 59–60.

how many of the rest were mainly dependent on the produce of their farms. Nor does he give any indication of how many cottagers there were in proportion to the farmers. We may, however, conclude that what independent producers there were in the rural districts would be found among these farmers of the first two classes. It is probable, too, that a greater number of independent producers would be found amongst the woollen manufacturers than amongst the cotton. Most of them would have a few sheep on their farms and would, therefore, have part at least of the raw material ready to their hand. Then again, the skill required would have been handed down for many generations, since the farmers had always made their own clothing, and to engage in the manufacture was only to extend what they had already been doing. The family of Pococke's horse-boy, it will be remembered, wove woollens for sale as well as for home use.[1] Another point to be noted is that the farming of the class that had come to depend on manufacture would be of a rather slovenly and intermittent character. Bamford says that "the farming was generally of that kind soonest and most easily performed."[2] In Defoe's familiar picture of the woollen district near Halifax he notes that little of the land was cultivated, but that it was used for the support of a horse and a cow or two. Heaton, commenting on the landholdings of the cloth-workers, says that they were not intended to make farming a serious rival to the textile industry.[3] Sometimes they were used largely for textile purposes. If not thus used they were devoted to the growth of hardy crops that required little attention or were turned into pasture for the rearing of live stock. Defoe remarks that they "scarcely sow enough corn to feed their poultry."[4]

Town Workers.—The above description is of the cloth-workers, cotton and woollen, that were to be found in the rural districts. But there was another class to be found congregated in the towns; Manchester, Halifax, and the

[1] *Camden Soc.*, Vol. I, pp. 203–4.
[2] Bamford: Introduction to *Works of Tim Bobbin*, Ed. 1850.
[3] Heaton: *Yorkshire Woollen and Worsted Industry*, p. 291.
[4] Defoe: *Tour*, III, pp. 144–6 (Ed. 1769).

other clothing towns of the northern woollen area, provide many illustrations. This class would have no connection with the land and would be for the most part simply wage-earners, either at day or piece rates. There were a number of big clothiers in Leeds, some having as many as twelve looms in a room. In the Derby silk mill in Defoe's time 200 hands were employed, while the one at Sheffield employed 152 hands.[1] An interesting contrast to the picture of the weaving area near Halifax, where Defoe describes the country organization of his day, is provided by his description of the town of Norwich. After quoting the statement of a resident of the town to show that 120,000 people [2] are employed in the spinning or weaving of the district, he says:

"If a stranger were only to view or ride through the city of Norwich on ordinary days he would be induced to think it a town without inhabitants . . . but the case is this; the inhabitants being all busy at their manufactures, dwell in their garrets at their looms and in their combing-shops, as they call them, twisting mills, and other work houses." [3]

So that in considering the organization of the cloth-workers the town labourers, working in their own garrets or in the loom-shops of larger employers, must be remembered in addition to the three classes of country labourers mentioned above.[4]

Management.—We have now to consider the domestic organization from the standpoint of management. The master-workman is not only owner of his fixed and to some extent, except in the most dependent forms of domestic manufacture, of his circulating capital; he is also the manager and working foreman of his little household. In

[1] Heaton, cited above, pp. 353, 354.

[2] Defoe, I, p. 57 (Ed. 1769). Compare Young's estimate in 1770 of 12,000 looms, or at 6 persons to feed each loom, 72,000, at a time when the industry was at its height. Defoe's 120,000 stands from the first edition, 1724.

[3] *Ibid.*

[4] Daniels, op. cit., pp. 134–41. He discusses fully the evidence and amongst other authorities quotes Gaskell (*Manuf. Pop. before Factories*), who says there were three classes in the country: yeomen or small freeholders, primarily agriculturists; superior artisans with land as accessory to manufacture, and cottagers who were altogether artisans.

the woollen industry there might be discerned three classes of clothiers, shading into each other, of course. There was first of all the small independent clothier, whose business was practically confined to his own immediate household. Having bought the wool it was carded and spun by members of his own family, and, if necessary, some of it was put out to be spun in the neighbouring cottages. He carried through all the processes himself, and with the aid of an apprentice, who might be his own son, or the son of a neighbour, or a pauper child thrust upon him by the Poor Law Commissioners, and possibly a journeyman, wove one or two pieces of cloth per week. This he marketed himself, and his class formed the bulk of the sellers in the Leeds market. Out of the proceeds he would have to pay for wool, for fulling and wages for any spinning he had had done outside his own family. Most of these men had from 3 to 15 acres of land, kept some poultry, a cow or two and perhaps some pigs. Frequently they also had a horse to carry materials from the market and cloth to it; but some of the poorer clothiers could not afford this luxury and had to carry their wool and cloth to and fro on their backs. The cleaning, carding and spinning was done by the children and women of the house. When the yarn was ready, the men sized the warp and put it into the loom, and then wove the piece of cloth.[1] About the middle of the century £100 to £150 was considered sufficient to set up on such a scale,[2] and this objective was within the reach of a frugal and hard-working journeyman after a few years of labour.

Some of this class developed into the middle class of clothiers. The small man did not, however, hold the field in Yorkshire, though he was so numerous as to give the prevailing note to the area. The big man went to the wool markets or to the wool-producing counties, bought his wool, and when he had brought it home he set his family and the children and women of his employees' families to convert it into yarn and cloth. Heaton gives two instances

[1] Bamford, op. cit., Introduction to *Bobbin's Works*, 1850.
[2] Heaton, op. cit., p. 294. Based on data from the *London Tradesman*, 1757, by R. Campbell.

of this class.[1] One who began business in 1780 had only one loom in his own house which was worked either by himself, his son, or an apprentice, while his daughter spent all her time in spinning for this loom. But besides this home organization he employed twelve journeymen working in their own homes on piece rates. Another, on a slightly larger scale, living at Armley, was a maker of fine broadcloths. He had a spinning-jenny and three looms, all of which were in his own workshop. He, his apprentice, and a journeyman each worked a loom. Another man and his wife spun for him in his shop—two or three children sorted the wool, and another woman was engaged in spinning for him in her own home.

The third class was composed of the very big clothiers, of whom there were some in Yorkshire, and particularly in Leeds, during our period. These men anticipated the factory system by having large congregations of workpeople in their shops, but retained the domestic system in that they had numbers of employees who worked in their own homes. Instances are given by the Report of 1806. One is of a clothier who had twenty-one looms, eleven in his own shops and ten erected in the houses of his weavers ; another at Huddersfield had seventeen looms and employed others to work in their homes. Although these examples are from a later date than 1760, power loom weaving had not yet invaded the woollen industry, and machine spinning was the only long step forward the industry had taken.

In the worsted industry, we find examples of the more capitalistic form of management. This was a comparatively new industry in the north and its rise was one of the characteristics of the period under study. The worsted manufacture had to fight its way against the other woollen fabrics of the north and it required some considerable capital to set up in that branch. The worsted manufacturer was usually a large employer of labour, controlling the wool throughout all the processes of manufacture. In this way he resembled the large clothiers of the south-western

[1] Heaton, pp. 295, 296. Quoted from the *Report on the Woollen Manufactures*, 1806, III, pp. 129, 138.

district. When the wool had been secured he had it sorted and dyed under his own supervision; it was then given out to be combed and spun over a large extent of country. When spun it was collected again and given out to domestic weavers who worked at piece rates. Thus in the woollen industry there were a large number of small men and a few large ones; but in the worsted industry there were few if any very small men and the industry was in the hands of the large clothiers.

In the cotton industry both cotton and linen yarn reached the manufacturers through the merchants or through the shopkeepers.[1] After the invention of the warping mills the linen yarn was given out by the merchants or employers so that it was ready for use. But the cotton was given out in bulk and it was part of the business of management devolving on the master weaver to get it cleaned, carded, roved and spun. Where possible this was done in the weaver's family. Laid on a tight hammock of cords, it was beaten with a willow switch by the women or children of the family, then slubbed or washed in a ley of soap and water and afterwards dried near the kitchen fire. When dry it was carded, twisted into the roving, and spun by the women. But in many instances there were not enough members of the family to spin for the weaver and he had to put out the cotton wool for spinning. He was paid a sum to cover the cost of carding, roving and spinning and made his own arrangements with the spinners. In many cases, no doubt, the weavers bought the cotton wool and sold the cloth, but these were by the middle of the century the exception rather than the rule in the cotton industry.

Advantages of Domestic System.—The domestic system had many advantages as a productive organization. There was a freedom from supervision that should have tended to develop a greater sense of responsibility and dependableness of character amongst the workers. The family were enabled to work together instead of being separated as in the factory system. Children, while they

[1] Daniels: *Early English Cotton Industry*, pp. 58, 59. Constant advertisements in the *Manchester Mercury*.

had to work, worked under the supervision of their parents. The healthiness of the occupation is perhaps not to be attributed to the cottage system as such, but to the fact that the cottages were placed in the rural districts and the hours of indoor labour were interspersed with outdoor work in the gardens and with trips to and from the markets or the source of supply of raw material. The supposed advantage of the domestic worker's pride of craft was perhaps not so great as might be thought, for after all, weaving the same sort of cloth week after week was liable to become as monotonous in a cottage as in a mill. If advantage existed at all in this respect it was more likely to be found in the fact that the worker had to provide the power for the loom or the spinning wheel, and therefore felt that he was actually performing the operation in a more real sense than where he was simply tending a machine that was itself doing the work.

Disadvantages.—Against these must be set the disadvantages inherent in such an organization of production. There was a great lack of that supervision of the employer or his agents over the quality and uniformity of the work. Hours were long but not very strictly observed as they would be in a factory. The records of the Quarter Sessions are full of cases of theft and embezzlement of material during this period.[1] The system was equally wasteful of time. The passing of material from place to place, from county to county, in the course of the various processes of manufacture, made an enormous amount of carriage necessary, and added considerably to the cost of the finished article. When new and larger machines came, there was the added difficulty of finding room for them or power to work them in the small cottages scattered round the countryside.

Summary.—The organization of production on the eve of the Industrial Revolution was therefore partly capitalistic and partly on the domestic basis. Mining was, generally speaking, organized on a capitalistic basis. In

[1] The accounts of those Quarter Sessions in the *Manchester Mercury*, for example, in the 'fifties are mostly concerned with theft of material or embezzlement, while the material was entrusted to workers.

lead and tin mining, some of the small man's freedom and control remained because of the survival of the system of free mining regulations. But even there, owing to the increasing expense of the operations, control was rapidly passing into the hands of the moneyed men, and the miners were becoming wage-earners on either piece or day rates.

With some notable exceptions in the case of very large clothiers and in the silk industry, where factories had already begun, manufacturing was on a domestic basis. In connection with the supply of raw materials and the ownership of circulating capital, control of this economic function had passed very largely into the hands of merchant-employers on the one hand and the masters of one or two processes who employed the craftsmen of other processes and even employed others of their own craft. There was thus a tendency on the part of commercial capital to enter the industrial field and assume the function of organization of the distribution of raw materials and control them through the various processes of production. And as industrial capital accumulated in the possession of the more successful craftsmen it tended to be employed in the same sort of organization. Both from within and without capital was tending to interfere with the complete independence of the small master and bring him into dependence on an employer. The notable exception to this tendency was in the clothing area of East Lancashire and West Yorkshire and to some extent in the country districts of the cotton and fustian area.

Fixed capital, however, remained in the hands of the craftsmen to a very large extent. The rather primitive nature of the processes and the simple construction of the machines and instruments used made it possible for any frugal workman to set up for himself after a few years. It was in the management of this fixed capital and in the management of the activities of the members of his family and the apprentice, and in most cases the journeymen he employed, that the master workman found outlet for his organizing energies. And lastly we have seen the advantages and disadvantages inherent in such a productive

organization. It was wasteful and uneconomical; it tended to be conservative and antiquated and it was inadequate to meet any sudden expansion of demand from the consuming markets. Nevertheless, the domestic system fostered and preserved the small unit; it gave some measure of freedom to the worker and it brought with it conditions that worked for his general physical well-being.

State Regulation.—The close of our period is marked also by the end of the system of government regulation of industry. State regulation had begun in the first instance as the result of a genuine desire to maintain the high reputation of English goods and of a necessity for revenue.

Early.—Early in the thirteenth century "Ulnagers" or measurers were appointed for woollens. The "Assize of Measures" was dropped about 1353, but the "Ulnager" remained as a measurer and a collector of the subsidy. Dishonest weavers were in the habit of using flocks, thrums or waste ends, and other waste in the weft of the cloth. There were also complaints of diversity of quality in the one piece of cloth and of excessive stretching or tentering.

By 1552, the law recognized twenty-two different types of woollen cloth. In that year weight was added to the other specifications for the cloth. Searchers were also appointed to assist the "Ulnagers." In 1597 a drastic step was taken when tenters were forbidden altogether, but the Yorkshire Justices refused to enforce the Act. In 1623 the Government gave way and permitted tenters of given specifications. During the seventeenth century there were three separate conflicts between the clothiers and the Ulnagers. From 1612 to 1614 the Ulnagers attempted to raise the subsidy on Kerseys from 1*d.* to 1½*d.* In a great lawsuit the clothiers won a complete victory, and similar contests in 1637 and 1676 had the same result.[1]

Stuarts.—Under the Stuarts an attempt was made to supervise the Yorkshire Cloth Industry by means of corporations. There was first of all the West Riding Corporation, which had charge of the clothiers throughout the Riding. One half of its members were appointed from

[1] Heaton: *Yorkshire Woollen and Worsted Industry*, chap. IV.

Leeds and half from the rest of the Riding. This Corporation died out about 1685 and an attempt to revive it in 1692 was a failure. The difficulty it encountered was due to the fact that the clothiers were scattered about in the valleys of the countryside, and effective supervision was almost impossible. In 1662 there was a revised Corporation of Leeds, which set up six gilds within the town, of which the cloth-workers was the largest. This municipal attempt gradually died out because the country clothiers were not subject to supervision, and the manufacturers tended to leave the town. The best work of this gild was that of the searchers.[1]

Eighteenth Century.—By 1700, it was plain that the Stuart machinery had broken down. An Act of 1708 fixed a minimum breadth of 1 yard 13½ inches, and a maximum length of 46 yards for each cloth. Measurement and sealing were to be done by the fuller at his mill. Indictments were only to be made before Justices who were neither merchants nor clothiers. The fullers did not like to offend their customers and so the duty of measuring and sealing was not very conscientiously performed. The Statute of 1725 was based upon the recommendations of the Committee of Inquiry from the Pontefract Quarter Sessions. Under this Act the clothier was to sew or weave his name and address into the end of each cloth. Maximum lengths and minimum breadths were continued; and the fullers were put under oath to measure and seal the cloths, and were allowed to keep one half of the fee of twopence for each cloth. The value of this Act lay in its machinery. The Justices were to appoint searchers on a salary of £15 a year, with full powers of entry and search in mills, houses, shops, outhouses, tenter ground or warehouse. This Act remained in force until 1765. At first it only applied to broadcloth, but in 1738 it was made to apply to narrow cloth also and was amended by removing the requirements for length and breadth and causing the searcher to mark the dimensions on each piece as he sealed it before it left the fulling mill. The number of searchers

[1] Heaton, cited above, chap. VI and VII.

was largely increased, so that each mill could be visited every day. In 1743 a surveyor was appointed to supervise the searchers. By the 'sixties, however, the Act had broken down and the searcher was accustomed to leave his seals with the fullers.

The Statute of 1765 repealed all the preceding Acts and therefore took away all restrictions of dimensions and weight. Sealing and stamping were taken from the fuller and given to the searcher and a new system of searchers, inspectors, and supervisors was set up. For a time the new broom swept clean, but by 1806 the searcher merely collected fees and registered cloth. In 1821 all previous Acts were repealed and Government supervision came to an end. As the Government supervision declined an informal organization began amongst the worsted manufacturers about 1775, which was legalized for Lancashire, Yorkshire and Cheshire in 1777. This "Worsted Committee" gradually evolved an efficient system of inspection and is still in existence.[1]

Linen and Cotton.—In contrast to the woollen industry the cotton and linen manufacture grew up under the exemption from supervision which was granted to the cheap cloths of Lancashire, Kendal, etc., by the Acts of Elizabeth. Almost the only Government interference with these trades was concerned with the prohibition of printed calicoes early in the eighteenth century. In 1700, the woollen interests secured an Act prohibiting the import of printed cotton fabrics. In 1721 the home production of printed cottons had become so great that an Act was passed prohibiting the wear or use of printed or dyed calicoes of any sort, home or imported. Scottish linen manufacturers secured the exemption of British linens from the Act and Lancashire was saved by the exclusion of muslins, neckcloths, and fustians from the scope of the Bill. This led to the printing of fustians and other fabrics, which called out opposition from Norwich in 1735 and resulted in the "Manchester Act," which expressly exempted the fustian fabrics of Lancashire.

[1] Heaton, chap. XII.

CHAPTER VIII

ECONOMIC ORGANIZATION OF DISTRIBUTION

Cloth Markets.—The last step in production is also the first step in distribution. Production could not be considered complete until the product was on the market on its way to the consumer. Under the domestic system in its more independent forms, the marketing of the cloth by the small producer was an important part of his business. While the production of cloth in the Lancashire and West Yorkshire country was small the weekly markets were unimportant, and the fairs held once, twice or thrice a year were the most important marketing centres for woollens. In the early seventeenth century there were fifteen places in the Riding of West Yorks chartered to hold cloth fairs.[1] But towards the middle of the century the weekly cloth markets at such places as Wakefield and Leeds grew in importance until the old fairs lost their place in the marketing of cloth.

In the early part of the seventeenth century the Brig Market for cloth had been held on the narrow bridge over the Aire at the foot of Briggate. The exposed situation and the inconvenience to passers-by and to vehicles caused its removal in 1684 to the broad street above, where it remained until it was superseded by the cloth halls of a later date. This market is chosen for description because it was one of the largest, if not the largest, in the country. Others were run on a similar basis, such as the markets at Wakefield, Halifax, Bolton, Colne, etc. The clothiers had to be up very early in the morning and from the surrounding country districts one to fourteen miles away they

[1] Heaton, op. cit., p. 359.

made their way over the narrow and abominable roads to Leeds to be there in good time for the opening of the market at six o'clock in summer and seven in winter. They made this journey in face of the perils of the road from accidents and highwaymen and in the frequently inclement weather of a Yorkshire winter night, some with their one or two pieces of cloth on the back of a little galloway and some carrying the cloth on their heads.

Perhaps the best of the many contemporary descriptions of this market is that given by Defoe, and though it is well known it is worth quoting.[1] Having refreshed himself after his long journey at one of the numerous inns, with what was called the "Briggshot," a meal consisting of a "pot of ale," a noggin of pottage, and a trencher of boiled or roast beef for twopence,[2] the clothier was ready for the market.

"The Cloth Market at Leeds is chiefly to be admired as a prodigy of its kind and perhaps not to be equalled in the world. The market for serges at Exeter is indeed a wonderful thing and the money returned very great, but it is there only once a week whereas here it is every Tuesday and Saturday.

"Early in the morning, Tressels are placed in two Rows in the Street sometimes two Rows on a Side, across which Boards are laid which make a kind of temporary Counter on either Side from one end of the Street to the other. The Clothiers come early in the Morning with their Cloth; and as few bring more than one Piece, the Market days being so frequent, they go into the Inns and Public houses with it and there set it down.

"At about Six o'clock in the Summer, and about Seven in the Winter, the Clothiers being all come by that Time, the Market Bell at the old Chapel by the Bridge rings; upon which it would surprise a Stranger to see in how few Minutes without Hurry, Noise, or the least Disorder, the whole market is filled, and all the Boards on the Tressels covered with Cloth, as close to one another as the pieces can lie longways, each Proprietor standing behind his own Piece, who form as it were a Mercantile Regiment, drawn up in a double line, in as great Order as a Military one.

[1] Defoe: *Tour*, III, pp. 117–19 (Ed. 1762). In the 1769 edition the scene is transferred to the new Cloth Hall, but is essentially the same. III, pp. 124–6 (Ed. 1769).

[2] *Ibid.*, III, p. 116.

"As soon as the Bell has ceased ringing the Factors and Buyers of all Sorts enter the Market and walk up and down between the Rows, as their occasions direct. Some of them have their foreign Letters of Orders, with Patterns sealed on them in their hands; the colours of which they match by holding them to the Cloths they think agree to. When they have pitched upon their Cloth they lean over the Clothier and by a Whisper in the fewest Words imaginable, the Price is stated; one asks, the other bids; and they agree or disagree in a Moment. The reason of this prudent Silence is owing to the Clothiers standing so near to one another; for it is not reasonable that one Trader should know another's Traffic.

"If a Merchant has bidden a Clothier a Price and he will not take it, he may go after him to his House and tell him he has considered of it, and is willing to let him have it but they are not to make any new Agreement for it so as to remove the Market from the Street to the Merchant's House.

"The Buyers generally walk up and down twice on each Side of the Rows and in little more than an Hour all the business is done. In less than Half an Hour you will perceive the Cloth begin to move off, the Clothier taking it upon his Shoulder to carry it to the Merchant's House. At about Half an Hour after Eight the Market Bell rings again, upon which the Buyers immediately disappear; the Cloth is all sold or if any remains it is carried back into the Inns. By Nine o'clock the Boards and Tressels are removed and the Streets left at Liberty for the Marketpeople of other professions, the Linen Drapers, Shoemakers, Hardwaremen, and the like.

"Thus you see 10 or 20,000 pounds worth of Cloth, and sometimes more, bought and sold in little more than an Hour, the Laws of the Market being the most strictly observed that I ever saw in any Market in England."

Cloth Halls.—But such a market was open to the weather, and at the end of the first decade of the eighteenth century the rivalry between Leeds and Wakefield led to the erection of cloth halls in both places. The hall in Wakefield was opened in 1710 and that in Leeds in 1711. They were for the marketing of white cloths, and the only effect was to remove the market under cover from the weather, and to alter the sale of white cloths to the afternoons of Tuesday. But as the century advanced this hall became too small for the growing needs of the area and in 1755, just a little before the end of our special period, a second White Cloth Hall was erected. A third hall was erected

in 1775 which provided 1,213 cloth stands,[1] and which, though built by the energy and subscriptions of the merchants of Leeds, was handed over to the clothiers for administration.

In contrast with the comparative inactivity of the white cloth makers in connection with these halls is the energy and initiative of the coloured cloth makers about the middle of the century. Some alterations of the streets which the Corporation had received permission to execute made it necessary for the makers of coloured cloths, who of course had been left on the market in the open at Briggate to find some other accommodation. They built by subscription amongst themselves a larger hall than that erected in 1775 by the white cloth merchants on a piece of ground where the city square and the post office now stand. It was in the form of a quadrangle and contained 1,770 stalls, each 22 inches wide. They were the freehold property of the clothiers, who had subscribed to the building to the extent of £2 10s. each or more, but no holder was allowed to have more than three. This large hall was opened for business in 1756,[2] so that in Leeds by the opening of the Industrial Revolution the picturesque open market had disappeared, but the principle of the public market remained and the small producer marketed his one or two pieces of cloth on practically equal terms with his larger competitors. The only restriction on the use of both the White and Coloured Cloth Halls was that the clothier using them must have served the full period of apprenticeship, which was seven years, until 1797, when force of circumstances compelled the Trustees to reduce the period to five years.[3] There was a cloth hall also at Halifax as early as 1708 which served as a market there with the overflow finding a place in the Butchers' Shambles till 1779, when a new hall was erected.[4] The worsted merchants at Bradford did not, however, have a hall till 1773, perhaps because, being more capitalistic in organization, they sold in larger quantities.

[1] Heaton, p. 369.
[2] *Ibid.*, pp. 371–4.
[3] *Ibid.*, p. 375. (Report of Woollen Manufacture, 1806.)
[4] *Ibid.*, p. 379.

At any rate, they made shift with their own premises and some space at one of the inns till the date mentioned above. There is no mention of a hall at Colne, but there was a considerable open market there till the rise of Bradford gradually absorbed the trade at Colne. The Huddersfield clothiers exposed their goods on the walls of the churchyard till their hall was erected in 1766. The Wakefield Hall of 1710 was supplemented by another called the Tammy Hall, built also in 1766. There was a fustian market at Bolton, but because of the comparatively small number of independent producers, it never attained any great prominence. Most of the workers were employed on piece or day rates by merchants who took the cloth elsewhere for sale. In fact, the cloth market or open market system was only suited to an industry where there was a host of small producers as was the case in the Yorkshire Woollen Industry. As soon as the merchant or the large manufacturer really dominated the scene, the open market would decline and that step in the organization of distribution would disappear.

Even while the halls were seemingly at their zenith, methods were growing up which were in the end to supersede them by destroying the need for a public market. In some cases a merchant or his factor would ask a clothier to make a certain number of cloths to given specifications. These cloths, of course, would not come into the open market, and in course of time the clothier might be so busy filling orders that he went no more to the market. The same result might come about in a slightly different way. A merchant might be struck with the quality or pattern of a certain cloth on the market and ask the clothier to make him a number like it. Thus began the system of working to order, which was one of the great causes of the decline of the open markets. The letters of Holroyd and Hill show that this tendency was at work quite early in the century. Holroyd was a factor who by 1706 was buying large quantities of cloth in the Halifax market; but at the same time he was visiting the clothiers and buying cloth from them at their homes. In some cases he gave

orders for cloths to be made to his specifications. Thirty years later Hill was a clothier working on a rather large scale. "The greater part of his wares were made in accordance with the orders of his patrons, merchants of London and Holland." Some of them agreed to take a certain number of cloths per annum or per month.[1]

The economic significance of such methods is not so much that they tended to destroy the public market as that they sapped the independence of the small master. When that declined, the public market would decline of itself. Either the merchant began to adventure his capital in controlling the manufacture of the goods, or the successful clothier became a merchant as well on his own account, became the employer of numbers of others, and so drew them into dependence on himself. This was what had happened in the more highly organized clothing industry of the south-west and to a lesser extent in the east. It was what had happened to a great extent in the cotton industry, though from slightly different causes. So that outside the area where the independent small clothier remained the dominant figure on the stage, this first step in the organization of distribution, that of selling goods in small quantities in a free public market, was practically omitted.

Market Buyers.—To analyse the organization of distribution is to discuss the middleman. How did the goods after leaving the workshop reach the final consumers? We should first ask ourselves who were the buyers in the local public market and where the goods went after they were purchased from the small producer. First of all, the local consumer must have his requirements satisfied. It is possible that a few economical people would go into the cloth market to buy a piece of cloth for their own use; but the main buying for local consumption would be by the shopkeepers and tailors. The extent of this buying would be insignificant as compared with purchases for distant consumption, especially in the large markets like that of Leeds or in any areas where production was specialized.

[1] *Letter Books of Joseph Holroyd and Sam Hill.*

Defoe distinguishes three classes of buyers in the market at Leeds. He observes:

"First there is a Home-Consumption; to supply which, several considerable Traders in Leeds go with droves of pack-horses loaden with those Goods, to all the Fairs and Market Towns almost over the whole Island, not to sell by Retale, but to the Shops by wholesale; giving large Credit . . . there are others who have Commission from London to buy, or who give Commissions to Factors or Warehouse Keepers in London to sell for them, who not only supply all the Shopkeepers and wholesale Men in London, but sell also very great Quantities to the Merchants as well for the exportation to the English Colonies in America . . . as also to the Russian Merchants . . . the third Sort are such as receive Commissions from abroad to buy Cloth for the Merchants chiefly in Hamburg and in Holland, etc. These are not only many in Number, but some of them very considerable in their Dealings, and correspond with the farthest Provinces in Germany." [1]

It will thus be seen that there were three consuming areas represented, the foreign market, the London wholesale market, and the provincial English areas.

Fairs.—Before passing to a consideration of the distribution in these markets let us pause to consider another method of exchange then in vogue. What the local public market was to the small producer, the fairs were to the wholesale dealers in the early eighteenth century. They were occasions on which great gatherings of merchants and traders met in certain places. There for a few days the bulk of the commercial life of vast areas was concentrated, and large amounts of business transacted. They were the attempt of commerce to overcome the inconveniences of poor and scanty means of communication and in the first instance had been intended to give the outside dealers a chance to trade in towns where for the greater part of the year the local dealers had a monopoly. A writer in 1774 says that

"Free Fairs were a very considerable article in the commerce of Europe, especially that of the Mediterranean and the Inland parts of Germany, etc., where the continual passage and repassage of ships is impracticable." [2]

[1] Defoe: *Tour*, III, pp. 126–7 (Ed. 1769).
[2] Pamphlet, 1774: *Hist. Account of Sturbridge and Bury Fairs*, p. 7, Rylands Library, No. 15491, T.61.

The suggestion that it was imperfect facilities for communication that gave the fairs their commercial value is probably well founded. This writer cites the great fairs of Europe, and amongst them he mentions Leipsic, Novi, Riga, Archangel, a fair of six weeks when Russia meets Europe, Beaucaire, and others; besides a number in America and the West Indies. At some of the European fairs a great business was done in Bills of Exchange on different countries.[1] In Britain the fairs next to Sturbridge were Bristol, Portsdown, Bury, and the Midsummer fair near Cambridge.[2] Another writer mentions in addition fairs at Exeter, West Chester, and Edinburgh; there were as well the sheep fairs at Weyhill and Burford, a fishing fair at Yarmouth, a butter fair at Ipswich, and cheese fairs at Atherston and Chipping Norton.[3] It is interesting to note in this connection how the eighteenth-century idea is being revived in the modern exhibitions or fairs that are held from time to time. A good example is the well-established National Exhibition at Toronto in Canada. This lasts for two weeks each autumn; manufacturers and merchants advertise their goods, keep a stall in the fair and sometimes sell by retail. Retail dealers for many hundreds of miles are present and give orders for goods, and trade connections are established that aid considerably in advancing the commercial interests of the community.[4]

In the early eighteenth century the greatest fair in England, and according to some writers the greatest in the world, was held at Sturbridge, near Cambridge. Again the most graphic description remaining to us is from the pen of Defoe.[5] There were first the retail traders who came and set up their shops to sell to the concourse of people thus come together, from all over the Island. These came chiefly from London—their booths were arranged in streets, but all were under canvas. In some of the streets the retail shops were mingled with those of wholesalers, but the parts of the fair that made the greatest impression on

[1] Pamphlet cited on previous page, p. 12.
[2] Postlethwayte: *Univ. Dict.*—Article, "Fairs." [3] *Ibid.*
[4] The attendance at this fair now reaches more than 1½ millions annually in the two weeks. [5] *Tour*, I, pp. 91–6 (Ed. 1769).

Defoe were those devoted to the wholesalers in wool, woollen manufactures and hops. The part devoted to woollen dealers was a square called the Duddery, 80 by 100 yards in extent, where the "dealers have room before every booth to take down and open their packs, and to bring in waggons to load and unload."

"This place being peculiar to the wholesale dealers in the Woollen Manufacture the Booths or Tents are of a vast Extent, have different Apartments, and the Quantities of goods they bring are so great that the Insides of them look like so many Blackwell Halls, and are vast Warehouses piled up with goods to the Top. In this Duddery, as I have been informed, have been sold £100,000 worth of Woollen Manufactures in less than a week's Time; besides the prodigious Trade carried on here by Wholesale Men from London, and all Parts of England who transact their Business wholly in their Pocket-books; and meeting their Chapmen from all Parts, make up their accounts, receive Money, chiefly in Bills, and take Orders. These, they say, exceed by far the Sale of Goods actually brought to the Fair, and delivered in Kind; it being frequent for the London Wholesaleman to carry back Orders from the Dealers, for £10,000 worth of Goods a man and some much more. This especially respects those People who deal in heavy Goods as Wholesale Grocers, Salters, Braziers, Iron Merchants, Wine-merchants, and the like; but does not exclude the dealer in Woolen Manufactures, and especially in Mercery-goods of all Sorts, who generally manage their Business in this Manner."

The clothiers of Yorkshire and their brethren from Lancashire who sold Manchester wares occupied a side and a half of the Duddery, and Defoe says that there were near a thousand horse-packs of goods from that side of the country. There was also a part of a street taken up by the Upholsterers' Wares, and amongst this there would be a good deal of Manchester "Tickens and Sackens." One dealer in Norwich stuffs alone had nearly £20,000 worth of goods in his own booth. The goods of the Western Cloth area are also mentioned, but were not so extensively shown; perhaps because the fairs held in Bristol twice a year carried off a goodly part of the manufactures of the west.

Besides the trade in cloth carried on at this fair, the sale of hops was so important that the price in many places was not set till the fair was over and it was known what

price had prevailed there. The trade in wool was not so great as that in manufactured goods, but he says that £50,000 or more was the amount of the dealings. Wool was sometimes brought to this fair in "Pockets," which were sacks forming a wagon-load in themselves, one of them containing as much as 2,500 lb. of wool. The hardwares of Birmingham, the cutlery of Sheffield and the glassware and Stockens of Leicester and Nottingham are also in the market. It was, then, at fairs like this that the wholesale dealers of the country in some measure kept in touch with the sources of supply, and with their customers in other parts. Curiously enough there is no suggestion in Defoe's description of the fair of any dealing on behalf of or by foreign merchants, but from another source we learn that Dutch traders began to frequent the fair after the accession of William III.[1]

Toward the end of the second quarter of the century other methods began to displace the fair. In a note in the 1762 edition of Defoe's *Tour* the editor says that the fair had considerably declined since the description was written, but that it was still considerable.[2] The pamphleteer quoted above says that for twenty years past (writing in 1774) Sturbridge Fair had been on the decline. Among other causes he mentions the easy communication with commercial cities and manufacturing towns, an increase of land carriages, new navigable canals, and the number of riders who take orders direct from the retailer for the manufacturers.

Merchants.—Buying for the foreign market was done partly by English merchants or their agents and partly by the agents of foreign dealers themselves.[3] The chief companies trading out of the east of England were the Merchant Adventurers and the Eastland or Russia Company. In the early sixteenth century when the export of Yorkshire cloth workers began to assume larger proportions the

[1] Pamphlet quoted above: *Hist. Acct. of Sturbridge and Bury Fairs*, 1774.

[2] *Tour* (Ed. 1762), I, p. 89.

[3] The extent of the foreign market for English woollens is shown by a Table in 1738. Defoe: *Comp. Eng. Tradesman*, II, pp. 287–91.

local mercers' companies were absorbed by one or other of these companies. They enjoyed a monopoly of the sale of English cloth in the markets of north-eastern Europe and made regulations for sale by the merchants. Each merchant, of course, traded entirely on his own responsibility. They guarded entrance into the company very closely so as to make their monopoly as profitable as possible. But toward the end of the century British trade was expanding and the restrictions of the companies weighed more heavily on would-be independent exporters. The outports resented the dominance of head-quarters and the growth of the manufacture in the rural districts increased the number who wished to be free from restraint. The companies had been suspended during the Commonwealth, but were restored to their privileges at the Restoration. But their strength had departed, for in 1688 they were unable to prevent a statute being passed that destroyed the monopoly they had hitherto enjoyed in Holland, Germany and the Baltic.[1] After this the companies declined rapidly. The records of the Eastland or Russia Company at York concerned with the sale of coloured cloth to the Baltic end in 1696, and although this does not mean that the company went out of existence, it ceased to have any appreciable influence on the coloured cloth trade. The Merchant Adventurers in 1693 tried to bolster up their failing power by pulling down the barriers of exclusiveness from within and reduced the entrance fee to 40s.[2] But their concessions were without avail when merchants could trade freely without their help. The York branch of this company continued throughout the eighteenth century as a trading society, but they pursued conservative methods, and the cloth trade of Yorkshire passed largely into more enterprising hands.[3] While these developments had been going on in the east and the trade of Hull and Newcastle was developing, Bristol and Liverpool had also been building up a trade that was independent of the London

[1] 1 William and Mary, c. 32.
[2] Heaton: *Yorks. Woollen and Worsted Ind.*, p. 244.
[3] *Ibid.*, p. 245.

merchants. "The manufactures called Manchester wares," says Postlethwayte, "such as fustians, cottons, tapes, incle, etc., are sent on pack-horses to London, Bristol, Liverpool, etc., for exportation."[1] From the seaports they returned with cotton wool, linen yarn, etc., for the manufacturers. After speaking of the extent of the woollen manufacture of East Lancashire and Yorkshire, he says that this manufacture is carried to the same places and in the same way as the Manchester wares, besides "immense quantities sent direct to Hull for export."

Agents.—There were four main methods used by the merchants in transacting their export business. Some sent shipments of goods in charge of a super-cargo, who was a sort of travelling agent with power to sell the goods and perhaps buy a return cargo for import; but whose power did not extend beyond one voyage at a time. Then there was the method of employing factors who were resident in the foreign port and bought and sold on the instructions of the employer; with perhaps some latitude as to the prices. There was but a small step from the employment of a factor to the method of selling through a commission house. The commission house was a firm entirely independent of the home firm, but they were entrusted with goods to sell as best they could on commission. Their popularity, of course, would depend on their being able to make good bargains for the shipping house. The fourth method was one that came into use more during the eighteenth century, as trade expanded and merchants accumulated larger capitals. This method was the establishment of branch houses in a port where the firm was doing a large business. The branch house was managed by an employee, or more usually by a partner in the firm; and thus greater freedom of action was possible, a more complete dependence on the man in the foreign city, and a closer correspondence with regard to policy.[2] This method

[1] Postlethwayte: *Univ. Dict.*—Article, "Britain."

[2] Westerfield: Diagram opp. p. 329 and description pp. 351–62. See also Daniels, p. 60, and *Manchester Mercury*, Feb. 6, 1770, for subscription by Manchester merchants *re* a firm in Antigua; and *Manchester Mercury*, Feb. 6, 1770, for the notice of the death of a Manchester merchant in Jamaica.

was adopted during the eighteenth century by the Manchester merchants as their business with Europe developed. Most of the foreign merchants employed factors or bought through English agents. Holroyd at the beginning of the century, and Hill during the 'thirties and 'forties, whose letter books have been referred to above, are examples of this method. There are also instances of foreign merchants having a member of their firm resident in one of the producing areas, such as Manchester, thus using also the method of the branch house.

London the Distributing Centre.—So far as the home consumption was concerned, London was, for the early years of the century at least, the great clearing house of the nation's trade. Even after the middle of the century,

> "London is indeed the centre of this home circulation, the several counties sending their goods thither, and receiving those of others in return . . . and the same may be said of other manufactures . . . besides what are distributed by pack-horses . . . there are also immense quantities sold at the fairs at Stourbridge, Bristol, West Chester, Exeter and Woodboro Hill." [1]

The London wholesalers bought through the marts in London, such as Blackwell Hall, and through their factors they bought at country fairs.

Blackwell Hall provides an illustration of the important development of the sale of goods produced in the country and sold through factors in London. Until well on in the eighteenth century Blackwell Hall had the monopoly of the sale of cloth for the country clothiers in the metropolis. When first opened the country clothiers owned stalls there and did their own selling. But it was not long before the custom of selling through agents or factors arose. At first these agents were the keepers of the hall and they sold cloths that had been left by clothiers who had not sold them during their stay in the city. But during the seventeenth century they encroached on the province of the clothiers to such an extent that they destroyed the sale by direct producers altogether.[2] Attempts were made to suppress

[1] Postlethwayte: *Univ. Dict.*—Article, "Britain."
[2] Heaton, p. 148.

their activities, and failing that to prevent them putting economic pressure on the producers to secure their monopoly, but were unsuccessful. In spite of the numerous complaints against them there is no doubt that they served a useful economic function. They obviated the necessity for frequent trips to London on the part of the clothiers, with the consequent expense and loss of time. This function was especially useful when communication became easier and regular posts allowed the sending of samples and correspondence more speedily.[1] It was also possible for the cloth to be sold at the most advantageous time, whereas otherwise the clothier would have to sell while he was in London. As their experience and constant presence at the Hall made them valuable to the clothiers, so their constant handling of cloth made their judgment valuable to the merchants who came to depend more and more on their valuation of the cloth. Thus did these middlemen establish their position between the producer and the wholesale dealer.

During the early part of the century, too, they established connections with foreign merchants and with factors of foreign merchants who were attracted to London by the long credit system prevailing.[2] This could not well be done till the European monopoly of the companies was destroyed in 1688, but by the middle of the eighteenth century it had become quite important. Many foreign merchants who had been accustomed to travel to the clothing areas and buy direct from the producers began to buy through the factors in London, thus saving themselves the expense and inconvenience of travelling in the rural parts of a foreign country, and of having to deal with several different parties.[3]

The London wholesalers sold their wares to the retailers in London; but an important part of their business was that of selling to the country drapers and mercers and to the chapmen. We have seen in Defoe's picture of the

[1] Westerfield: *Middlemen in English Business*, p. 301.
[2] *Ibid.*, p. 299.
[3] *Gentleman's Magazine*, 1740, p. 501. Spanish and Dutch merchants who had formerly bought from the clothier were by that time buying entirely through the factors in Blackwell Hall.

Sturbridge fair, the London wholesalers with their pocket-books taking orders from their chapmen for goods to be delivered at some future time at different places for distribution in the country districts.[1] In this way they acted as a connecting link between the specialized producing-areas and the consuming-areas scattered over the whole country.

Travelling Merchant.—But the enterprise of the northern dealers and perhaps to some extent the freedom from traditional methods and old-established regulations caused considerable inroads to be made on their trade by the method of travelling merchants. So characteristic of the northern traders was this development that those who followed it were called "Manchester Men." At first the chapmen "used to keep strings of pack-horses, and accompany them to the principal towns with goods in packs which they opened and sold to the shopkeepers, lodging what was unsold in small stores at the inns. The pack-horses brought back sheep's wool which was bought on the journey and sold to the makers of worsted yarn at Manchester or to the clothiers of Rochdale, Saddleworth and the West Riding. On the improvement of the turnpike roads wagons were sent up and the pack-horses discontinued, and the chapmen rode out only for orders, carrying with them patterns in their bags.[2] This writer says that this latter development took place mostly between 1740 and 1770; and that in that period they pushed the practice of "sending riders to those parts of the kingdom which before had been supplied by the wholesale dealers in the capital places." The expense and trouble of this innovation did not appeal to the old traders, some of whom we are told went out of business or, continuing in the old way, their trade greatly diminished. Aikin attributes to the influx of young and adventurous spirits into the business circles of Manchester, the increase in luxury and gaiety that marked that period in the life of the city.

Pack-horse Trains.—The common method adopted

[1] *Vide supra*, p. 224.
[2] Aikin: *History of Manchester*, pp. 183–4.

by these travelling merchants in the time of Defoe was that of the pack-horse. In his description of Leeds market it will be remembered he spoke of the traders who went with gangs of pack-horses to different towns, selling to the shops by wholesale. Some of them were quite large traders. It was ordinary for one to carry a thousand pounds worth of cloth with him at one time, and to have to send for several fresh supplies during the summer, which was their chief travelling season, owing to "the badness of the roads."[1] Elsewhere he speaks of the wares from Manchester and Coventry as well as Yorkshire going by pack-horses to London and also to all parts of England,

"The Manchester men, saving their wealth, being a kind of pedlars who carry their goods themselves to the country shop-keepers everywhere as do now the Yorkshire and Coventry Manufacturers also."[2]

Thus it was evidently the example of the Manchester men which inspired the other traders to this plan.

Riders.—By the 'fifties the rise of the carriers had changed the system to that of riders as described above, and it had even invaded the domain of the London wholesalers who had been forced to follow the example of the enterprising men of the north. Postlethwayte, about the end of the 'fifties, speaks of "our tradesmen of London being under the disagreeable necessity of sending riders at great expense to promote their business in the country."[3] Although he uses this as an argument for the continuance of fairs, it clearly shows that a change was coming over the method of business. Instead of the country draper seeking out the dealers in London to order goods they were visited by travellers with patterns and were solicited for their orders.

Retail Trade. Markets.—It remains for us to inquire how the retail trade of the country was carried on at that time. The vast bulk of the retail trade outside of the very large towns, and a good deal even in them, was done

[1] Defoe: *Tour*, III, p. 119 (Ed. 1762). When the edition of 1769 appeared, the dealer only took orders, sending the goods afterwards by common carrier. But the criticism of the roads remains.
[2] Defoe: *Complete English Tradesman*, p. 397.
[3] Postlethwayte: *Univ. Dict.*, "Cambridgeshire."

at the local markets and fairs. At the beginning of the century there were permanent shops only in the considerable towns and cities, but as the century went on their number and variety gradually increased. Even of the goods actually sold in the shops, the greater portion passed at one period or other of their preparation or carriage through markets or fairs, or both.[1]

Reference has been made to the great fairs held in different parts of the kingdom. One tendency that should be noticed was toward specialization in one or two related commodities. There were the sheep fairs at Weyhill and Burford—the horse fairs at Pancrass in Staffordshire—the butter fairs at Ipswich and the cheese fairs at Atherston and Chipping Norton, the cloth fairs at Exeter, Bristol and Woodboro' Hill, Dorset. Even the most famous fair of all, that at Sturbridge, tended, in spite of the variety of goods sold there, to specialize in the wholesale trade in wool and woollen manufactures.[2] But the fairs were more concerned with wholesale than with retail business, although the opportunity presented by such a gathering of people was not likely to be neglected by local shopkeepers, chapmen, or even by shopkeepers from a distance.[3]

The main dependence of the people in both metropolitan and rural areas up till the great development of fixed shops in the eighteenth century was on the weekly markets. Defoe in the early part of the century mentions twenty-six market towns in Lancashire, and to this list at least one, that of New Church in Rossendale, is to be added. As the population of the county had not reached much more than about 250,000 by that time,[4] there was a market town for every 10,000 people or less, for such markets as Liverpool, Warrington, Manchester and Rochdale supplied

[1] Westerfield: *Middlemen in English Business*, p. 333.

[2] This list of fairs is selected from a larger list given by Postlethwayte in his *Univ. Dict.* in the 'fifties of the century. Westerfield mentions other lists published in the *Atlas Mar. at Com.*, 1728, and in Owen's *Weekly Chronicle*, 1758. There is also a general work, the Report by the Market Rights and Tolls Commission.

[3] It will be remembered that the retailers in Sturbridge fair were mostly from London.

[4] Toynbee: *Ind. Rev.*, chap. II. Pop. in 1700, 166–200; in 1750, 297–400.

many more than that number. There were sixty parishes in Lancashire at the time Defoe wrote, so that there was a market town for every two or three parishes. In Warrington there were two fairs annually, and the chief market was on Wednesday, but there were others as well. Preston had three weekly markets "well supplied and frequented." In the sparsely populated peninsula of Furness there were four market towns: Dalton, Cartmel, Ulverstone and Hawkshead.[1]

The period of most rapid development of the markets was that from 1200 to 1500, but they were of great importance as late as our period. The total number of market towns in England and Wales in 1720 was reported at 758, and in 1741 at 786.[2] This was an average of sixteen per county, or one for approximately 8,500 people. The larger places, as mentioned, had more than one market, and where this was the case there was a tendency for the markets, like the fairs, to specialize in certain commodities. There were nearly forty markets in Defoe's time in London.[3] One of the most famous was the cattle market at Smithfield on Monday and Friday, with the afternoon of Friday devoted entirely to horses. There were altogether sixteen flesh-markets, to which a new one, Brookfield, was added in 1740, to be held three days a week. At all these markets space was set aside for fish and for vegetables, and in addition there were the fish markets of Billingsgate, Fishstreet Hill, and Old Fishstreet. The special vegetable markets were Covent Garden and Stocks market, which had been removed to Fleetditch to make room for the Lord Mayor's Mansion House. There were ten markets for the wholesale distribution of vegetables held three days a week all year, but in the summer the market-gardeners came six days. There was a fruit market at the Three Cranes, there were four meal markets, six hay markets, and at Leadenhall there was a leather market as well. There were also the cloth markets at Blackwell Hall and Leadenhall. Leaden-

[1] Defoe: *Tour*, III, pp. 255–96 (Ed. 1769).
[2] Westerfield: *Middlemen in English Business*, p. 334. Smith: *Memoirs of Wool*, II, 399; and Ogilby's *Britannia*.
[3] Defoe: *Tour*, II, pp. 146–52 (Ed. 1769).

hall was in fact a composite market, having different places and times for meats, fish, vegetables, leather, hides, bays from Colchester, poultry, dairy products, etc. The chief coal market was at Romeland, Billingsgate, though Defoe says that there were numerous wharves belonging to different dealers, all the way from the Hermitage to the Horseferry, Westminster, which might be called so many markets. He estimated that at that time London and suburbs was consuming about 500,000 chaldrons of coal annually. The corn markets at Bearkey, Queenhithe, Mark Lane, were of course mostly wholesale, as were some of the others. The Billingsgate coal market was held daily and was partly wholesale and partly retail. There were also specialized markets in different parts of the country. The cloth markets at Leeds and Exeter, Halifax and Norwich were well known. Shrewsbury was a great provision market, Cirencester a great wool centre, etc.[1]

Sufficient has been said to show the importance of the markets in the distribution of goods both wholesale and retail. They kept their hold as long as the population was mainly agricultural and scattered, and even in great centres retained a good deal of importance. Defoe often finds nothing to say of a town except that it had a good market. As population grew denser there was a gradual transference of sale from the periodic public market to the continuous market of the shops. Fairs had been practically superseded by the beginning of the Industrial Revolution, but the markets held their place for a much greater time ; and in the case of vegetables and other agricultural produce are still an important phase of retail distribution.

Shops.—As the markets declined the shops took their place. Many of the markets were held in streets, and all were at some convenient place for the gathering of the population. Stalls were erected in the street or the market square, and after the markets were taken down again. If the stall-holder could get possession of the house near which his stall stood, or get the consent of its owner, he

[1] *Hist. Account of Sturbridge Fair*, etc., 1774, p. 16. The Midsummer Fair near Cambridge was chiefly earthenware, and lasted for three weeks. Rylands Library Pamphlet, 15491, T.6.1.

might make it stronger and leave it standing from one market day to another, putting shutters on the front in the meantime. Thus it became in course of time a shop, or a store. In some cases the shopkeeper might begin to sell goods in one of the front rooms of the house, and this afterwards be enlarged by the addition of something corresponding to what we would call a shop-front.

A similar transformation may be seen in modern cities when a street is in process of transition to a business thoroughfare. Some houses have goods in a convenient window, while others have a shop-front built on like an additional room where there is ground in front of the house. There is this difference, of course, that in the eighteenth century, the change marked an alteration in the method of doing business, whereas to-day it simply means that business is invading a neighbourhood hitherto residential.

This change to closed shops was taking place in parts of London about the beginning of the seventeenth century. After the Great Fire of 1666 there was a dispersion of the shops into new districts. Dealers who had put up temporary quarters in other districts found it profitable to stay there.[1] There was a great tendency in London at least to specialize in the kind of goods handled. In 1747 there were 175 different kinds of shops at which things were sold, but for the most part the usual retail establishment was a general shop. The growth of the shops was sufficient by 1760 for a pamphleteer to complain that there were "hardly any markets in our country towns," and although this is no doubt a gross exaggeration, it shows that the market was suffering from the competition of the shops. Pococke's characteristics of a good town included good shops, manufactures, considerable markets, and public-houses.[2] The same traveller speaks of Lanidlos on the Severn as a "small, poor town, in which most of the shops are kept by the tradesmen of Newtown, and are only opened on market days," when there would be more than

[1] Westerfield, p. 343.

[2] *Ibid.*, p. 346. Pococke's descriptions of Totness, Truro, Kyneton, Hereford, Badminster, Bendley, Warwick, and Abergavenny are referred to.

the local population to serve.[1] What was happening was that as towns became larger, and the population denser, it paid the retailing middlemen to become sedentary, or at least to have a fixed place of sale, though many of them kept up their itinerant trade also. Another point is that the modern principle of display in shops became important and dealers began to dress windows and get larger premises so as to display their goods to better advantage.

Chapmen.—The itinerant trade was, before the rise of the country shops, the only way, outside of the markets, in which retail dealing was carried on. Indeed it must have represented most of the opportunities the women-folk of the farms and villages had of seeing manufactured goods for sale by retail, as they did not have so much chance to attend the markets as the men. By the eighteenth century the term "chapman," which had at first applied to all dealers, had become characteristic only of the retail trade. They bought their goods of the wholesale dealers at fairs, or in London, or from the Manchester men who travelled from town to town with wholesale lots. They ranged from the large dealer who had a shop of his own in some market town, and left it in charge of assistants, while he travelled about by horse or wagon in the country, to the small pedlar who carried his case slung round his neck, and his wares displayed in it, or hung round its edges. In the lists of bankrupts published in the *Manchester Mercury* in the early 'fifties, the words "and Chapman" follow the name of the business concerned with remarkable frequency.[2] Sometimes the craftsman is listed as being also dealer and chapman. Out of a list of forty-two retail dealers in the bankruptcy lists during part of 1752 and 1753, thirty-two were chapmen also, and there is only one instance of the failure of one who was a chapman only. Itinerant dealing was combined with such businesses and crafts as: shoemaker, clothworker, hatmaker, bricklayer, hosier, silversmith, dealer in bottles, maltster, farmer, carrier, flax-dresser, mercer, grocer, silkman, watchmaker,

[1] Westerfield, p. 347. Pococke, II, 20.
[2] *Manchester Mercury*, various dates from March 3, 1752, to April, 1753.

victualler, coachmaker, and horse-dealer, potter, stone-mason, linen-draper, shalloon maker, distiller, pawnbroker, weaver, clothier, mealman and painter. Such a diversity points to a very general adoption of the chapman's business as supplemental to a craft or a business ; and it also points to the attempt on the part of many small manufacturers to market their own goods without selling to merchants and other wholesale dealers.

Settled shopkeepers have always had severe criticism to offer of such itinerant dealers, and the eighteenth century was no exception to the rule. They were subject to no system of apprenticeship and could set up as they wished. They were on a lower social level, and lived very cheaply. They had few overhead expenses, such as rent, assistants, apprentices, etc. . . . and they escaped most of the taxes and civic duties that fell to the lot of the town shopkeepers. So that they could compete on very advantageous terms with those settled in town, especially as they went to their customers, instead of waiting for their customers to come to them. On the other hand, they could not carry such a selection of goods, nor display them to such good advantage, as could shopkeepers ; but they served the people who were remote from markets and towns and rendered a real service in pushing the sale of goods of all sorts into all parts of the country. In response to the complaints of the shopkeepers, a licence was required to hawk goods about for sale. The exceptions to this law were the makers of goods who might sell their own product. In 1704 the wholesale dealers in woollens and linens were exempted from the operation of the statute ; in 1717 the wholesalers of bone lace were exempted, but it was not till 1785 that this was extended to all wholesalers.[1] With the rise of the country store, however, his function declined.

Street Hawking.—In the cities, hawking was much more common than to-day.[2] No doubt they declined because of the growth of the settled trade of shops, just as the country chapmen did, although in both country

[1] 3 & 4 Anne, cap. 4, sec. 4 ; 4 Geo. I, cap. 7 ; 25 Geo. III, cap. 78. See Westerfield, p. 316.

[2] See Westerfield, p. 319, for details of hawking in London streets.

and town there are survivals in the modern hawkers and pedlars, and the street merchants selling fuel, vegetables and fish.

Chap-books.—An important element of the chapman's service to the community from the social, if not from the economic standpoint, was his distribution of ideas, and of literature. The chapman brought news of the outside world to isolated farms and villages; he spread the ideas current at the time far and wide over the country. But in addition, during the first sixty years of the century at least, when book-stores were only to be found in the largest towns, and when newspapers were few and mostly full of war items and foreign news, the little books sold by the chapmen formed, over the major part of the country, and for the bulk of the population, the only mental pabulum offered. Previous to the eighteenth century the chapmen had been distributors of ballads, and the chap-book did not exist unless the political tracts of the Civil War period could be so described. But with the opening of the century the chap-book proper came into vogue. Up till 1725 they were 8vo in form, 16 pages; but after that until 1800, when they began to disappear, they were almost invariably duodecimo, with 24 pages. The principal factory for them was at Aldermary Churchyard, London, and the principal point for the provinces was Newcastle. They were on all sorts of subjects and thus suited the tastes of a large variety of purchasers. They treated of subjects religious and diabolical, supernatural and superstitious, legendary and historical, romantic and biographical. The most popular were the romantic, and humorous stories.[1] Being so small they sold cheaply, mostly for a penny, and were very widely sold, especially amongst the less travelled part of the population. It was chiefly in this form that the numerous sermons, tracts, and controversial works of the Wesleyan movement were circulated; and when it is remembered that Wesley received during his lifetime upwards of £200,000 from his published writings, the scope

[1] This description of the chap-books is based on Ashton: *Chap-books of the Eighteenth Century*, Introduction, pp. v–x.

of the chap-book literature may be realized. It must be noted, however, that Wesley's publications were not circulated so much by chapmen as by the preachers he employed and the societies he formed.[1]

Coal.—The coal trade furnishes illustrations of the operations of the middlemen on a simpler basis than manufactured goods. It passed without change of form from the mines to the consumers domestic or industrial. There were five main divisions, three of which are sea-borne, and the others river-borne. Those carried by sea were from Newcastle and Sunderland on the east; the Cumberland coal exported from Whitehaven, mostly to Ireland; and the South Wales coal, shipped mostly to Devon, Somerset and Dorset. The river areas were the northern one of Yorks and Lancs and the valley of the Severn. In addition to this there was a great deal of coal distributed by the rivers of the middle eastern counties from Lynn and Yarmouth, but this coal was first sea-borne from Newcastle or Sunderland. In some instances the river distribution was supplemented by land carriage, as in Lancashire,[2] in Nottingham where the coal was distributed by loaded asses and coal-carts, and in Yorkshire where some of the towns were supplied by pack-horses, each carrying a load of some 320 lb.[3]

But the great terminal points of the coal trade up till the end of the eighteenth century were Newcastle and Sunderland in the north and London. The most important point of distribution after London was Lynn, which distributed up the Ouse, and other streams to the counties of Lincoln, Northampton, Leicester, Buckingham, Bedford, Cambridge and Norfolk.[4] The following table[5] given by Westerfield, shows the extent of the trade from Newcastle.

[1] *A New History of Methodism*, Townshend, Workman and Eayres, Vol. I, pp. 221 and 457.

[2] See above, p. 138, note 2, where the opening of the Sankey canal caused the sale of large numbers of pack-horses.

[3] *V.C.H., Nottingham*, II, 296; *V.C.H., York*, II, 340, and Pococke, I, 49.

[4] Postlethwayte: *Univ. Dict.*—Article, "Britain."

[5] Based on *Surtees Society Pub.*, Vol. 105, pp. 206–11.

	Annual Average.		
1661–1670	336,000 tons	1723–1730	710,000 tons
1671–1680	424,000 ,,	1731–1740	764,000 ,,
1681–1690	512,000 ,,	1741–1750	747,000 ,,
1691–1700	479,000 ,,	1751–1760	785,000 ,,
1701–1710	482,000 ,,	1761–1766	860,000 ,,

Postlethwayte distinguishes the three sections of the sea-borne coal trade mentioned above, and concluded by saying that "it has been computed that these three coal trades employ no less than 1,500 sail, and men in proportion; to which, if we add the porters, carmen, keelmen, watermen, lightermen, and bargemen . . . we shall find it one of the most valuable branches of our home commerce.[1] Elsewhere in the same article he says that there have been known to be in the port of London between 500 and 600 of these colliers at a time, and they never want a market for their goods. In addition to the consumption in London itself there was a good deal reladen in smaller vessels and shipped inland via the Thames to the counties drained by that stream.

Owner.—The coal-owner was the capitalist who organized the production of the coal. That is, he leased the land, if he was not already the owner, and provided the capital necessary for development. It was his business to place the coal in the staiths at the waterside, ready for transport. At this point the first middleman takes his place in the process.

Keelman.—These were the keelmen, the managers of the keels or lighters, of about 20 tons burthen each,[2] which conveyed the coal from the staiths to the ships. There seems to have been a constant tendency for the keelmen, who were nominally only carriers, to assume the middleman function, as the hostmen often levied fines on their members

[1] Postlethwayte: *Univ. Dict.*—Article, "Britain."

[2] Galloway: *Annals of Coal Mining*, p. 48. In Westerfield's book is a mistake so great that it must be a misprint. He is made to say that there were 320 keels in Newcastle in 1655 with a capacity of 800 Newcastle chaldrons each. This would mean that they carried about 2,000 tons each, as a Newcastle chaldron was 53 cwt. Eight chaldrons must be meant, for at that period ocean-going ships were not much more than 100 tons on the average. A modern Newcastle keel is only 21 tons.

for dealing with keelmen. In any case, they never assumed large importance as middlemen.

Fitter.—The fitters were the agents who acted for coal-owners who were not hostmen and therefore not entitled to engage in the coal trade out of the port. As time went on, however, the fitters began to dominate the Hostmen's Company, and in the eighteenth century the terms hostman and fitter were almost synonymous. Sometimes they bought the coals and sold them to the shipmasters, but their main business was to sell to the shipmasters and to load the coals from the staiths to the ships. For this service they got a stated "fittage": 1*s.* a chaldron at Newcastle and 2*s.* 6*d.* at Sunderland, owing to the fact that at the latter port the loading had to be done in the open roads, as there was no harbour. Their efforts at combination and regulation of sale may have been for the purpose of raising profits, but they effected the useful function of keeping the mines regularly employed. Had cut-throat competition been the vogue, many mines would have had to be abandoned, as they would not have been able to work steadily [1] and the overhead cost of keeping them open would have been prohibitive.

Shipmaster.—Curiously enough, the shipping was not owned by Newcastle people to any great extent. According to data published in 1789, Newcastle owned only 71 out of 1,277 ships registered for the coal trade. Of these the largest number, 211, were owned in Yarmouth, London having 168, Whitby 98, and Lynn 74. The average tonnage was 54.[2] The shipmaster was a seafaring merchant, buying from the hostmen or fitters at Newcastle, and selling to the crimps in London. He might, and generally did, own a share in the vessel he sailed, but he was not usually sole owner. He received a certificate from the fitter or hostman declaring the quantity, price and quality of the cargo.

Lightermen.—Arrived at London with his load of coal, the ship was met by the watermen or lightermen, whose

[1] Westerfield, p. 229.
[2] Brand (1789): *Hist. and Ant. of Newcastle-on-Tyne.*

business it was to unload the vessel and take the coal to the wharves. Up till 1730 they acted as buyers and sellers also, but in that year this practice was forbidden by statute and the attempt was made to confine them to their own business of unlading. By the middle of the eighteenth century, too, many of them had become shipowners. Thus there was a tendency in London toward amalgamation of the functions, but the development was checked by legislation.[1] The man who assumed the function of buying from the shipmaster was the crimp or coal-factor. By the statute of 1730 they were forbidden to buy or sell on their own account, but the law did not succeed in its aim, for they often bought cargoes and resold them in smaller lots. But the commission business was the bulk of their work.

They bought for the coal merchant, or first buyer, as he was called. He was the true wholesaler, buying all or a large part of a cargo at a time, or even several cargoes, and then selling them again in broken-bulk to an intermediate class of second buyers. Some of the second buyers were sub-wholesalers, and some were retailers. Some of the first buyers who were in a smaller way sold directly to consumers and householders. There were two classes of retailers. The first was called a dealer, and he owned his craft for unloading, although he had not sufficient capital to buy at Billingsgate itself. He bought from the first buyer and sold principally to householders. The other, called a retailer, kept a shed, and sold by the bushel, or in very small lots to those who came to him for coal, or delivered it to the houses in sacks much as is done to-day. The sacks were sealed as being of the proper size.

Salt and Metals.—Up till the changes of the eighteenth century the iron and salt trades were characterized by a lack of middlemen. The contact between miners and smelters of iron and salt boilers on the one hand, and the consumers on the other, was very direct. But in lead-mining the system of free mining caused the mines to be owned and operated by men of very small capital. They normally

[1] Westerfield, p. 232.

sold to the wealthier lead merchants, who performed the function of collecting the produce of many small workings, smelting the ore and putting the lead on the market. Though the system of shares made it possible for the capitalist to acquire ownership of mines, and there were many large owners by the eighteenth century, they continued to sell to the merchants as the smaller owners did. Tin-mining was also free, and though there were many local peculiarities of organization in the ownership of the mining rights, the usual merchant bought from the miners, and after the tin had been smelted he sold to the pewterers, who were the greatest customers for the product.[1]

Post Office.—An important element in the economic organization of business is the means of communication between correspondents in distant places. In the earlier days special messengers or chance travellers constituted the usual means of communication. With the rise of the carrier, this means became a little more regular, but was still slow and uncertain. The post office arose from the needs of the trading classes, and the desire of the government to raise revenue to pay part or all of the cost of the royal post. In 1635 Witherings was given charge of the Foreign Post, and charged with the reformation of the Inland Post. In 1657 Cromwell appointed the first regular Postmaster-General, and the first Act of Parliament regulating rates of postage for private mail was passed. In 1661 there were eight Clerks of the Road, two having charge of despatching mails by each of the four great roads, Northern, Chester, Eastern and Western. In 1677 the Kent and Bristol roads were added. In 1681 Dockwra established the first Penny Post for the collection and delivery of letters and parcels in the London area. There were 179 places in London where letters might be posted; they were collected to six central offices and thence delivered in four to eight deliveries a day. This organization was later taken over by the Post Office.

About the same time by-posts, or posts from market towns to the nearest post towns, were introduced. In 1696

[1] Westerfield, pp. 248–54.

the first cross-posts, or posts between two important towns without touching London, were introduced. Up till then all letters had to go to London, thence to their destination, an obvious inconvenience in the case, say, of a letter from Leeds to Manchester. In 1711 various sub-centres of the Post Office were set up in Edinburgh, Dublin, New York, the West Indies, and the American colonies. In 1721 Ralph Allen, of Bath, was given a lease of the cross and by-posts for seven years, periodically renewed until his death in 1769.[1] He furnished a thrice-a-week service to all the country except the south-western and the eastern roads, where there was a daily post.[2] The most important cross-post was that described by Defoe.[3] It

"begins at Plymouth . . . and leaving the great Western post road of Exeter behind comes away north to Taunton, Bridgewater and Bristol; from thence goes on through all the great cities and towns up the Severn, such as Gloucester, Worcester, Bridgnorth and Shrewsbury; thence by West Chester to Liverpool and Warrington; from whence it turns away east, and passes to Manchester, Bury, Rochdale, Halifax, Leeds and York, and ends at Hull."

The convenience of this cross-post for the merchants of Lancashire and the north generally is pointed out in the same part of his work.

"By this means the merchants of Hull have immediate advice of their ships, which go out of the channel and come in, by their letters from Plymouth, as readily as the merchants of London, and without the charge of double postage. The shop-keepers and manufacturers can correspond with their dealers at Manchester, Liverpool, and Bristol; nay, even with Ireland directly without the tedious interruption of sending their letters about by London."

The first positive evidence of an official postmaster in Manchester is in 1648, when the office was held by one Richard Green.[4] The position of postmaster was eagerly

[1] This account is based on Joyce, *History of the Post Office*; and J. C. Hemmeon, *History of the British Post Office*.
[2] Westerfield, pp. 364–6.
[3] Defoe: *Tour*, III, pp. 141–2 (Ed. 1769).
[4] *Lancs. and Ches. Antiq. Soc.*, XXII, p. 9.

sought after in all parts of the country because it carried a monopoly of the supply of post-horses to travellers, especially lucrative on the main roads. The postmaster was usually an innkeeper, and of course there were gratuities to be had for speedy service. In 1660 the rates for postage were 2*d.* for a single sheet up to 80 miles, 4*d.* for a double sheet, and 8*d.* per oz. for larger packets ; with an increase of 50 per cent. on these rates if the distance exceeded 80 miles.[1] By 1721 there was a thrice-a-week post to London from Manchester, as from most parts of the country ; and from Manchester posts went on Monday, Thursday and Saturday to various points in the kingdom, including Liverpool, Bristol, Kendal and Carlisle, Chester and Worcester. On Sundays, Tuesdays and Fridays the post left for Rochdale, Yorkshire and Edinburgh. Inward mails were of equal frequency. About 1744 the stage-coach began to replace the post-chaise and the use of saddle-horses for travellers. Up to 1755 this arrangement of thrice-a-week posts remained the same, but in that year some of them, notably the one to Rotherham and Sheffield, the Liverpool and Preston post, and the one to Derby,[2] were made daily posts. It was not so long before the London post was added to the number. It was the custom for the recipient of a packet to pay the postage or to "loose it from the post" as the expression was.

The description of the postal arrangements in Liverpool in 1775 illustrates the slender service that was given in those days. At that time, Liverpool had a population of about 34,000.

"The post office was in 1775, and for some years after, in North John Street. It was like the post office still seen in small country towns, a plain dwelling-house with an aperture for receiving letters and a moveable square or little door-like opening in the window for the delivery of letters. . . . In 1775 there was only one letter carrier for all Liverpool, and a greater number than one was not allowed for any town out of London. The mail bags were carried in 1775 and for some years afterwards in and out of Liverpool on horseback."

[1] *Lancs. and Ches. Antiq. Soc.*, XXII, p. 11.
[2] Brooke : *Liverpool in the Last Quarter of the Eighteenth Century*, p. 88.

Slow and inconvenient as these postal arrangements seem to us, they were the best facilities available, and the traders took the fullest advantage of them. Besides their regular correspondence, they used the mails for sending light goods such as laces, diamonds, etc. Then arose the custom of sending patterns and samples of cloth through the post to regular customers, and thus the range of business was extended. In 1738 the Bank of England introduced the system of "Bank Post Bills," for the sending of large sums through the post—the forerunners of our modern bank drafts. They were made payable at seven days' sight, in case of robbery of the mails, when payment of the bills could be stopped. Other commercial bills receivable and payable were also sent through the mails.[1] So that altogether the increase of the use of the mails for business purposes in the early eighteenth century represents a general speeding up in business communication and a facilitating of the means of transmitting funds to meet payments in different parts of the country without having to send heavy loads of specie.

Newspapers.—During the first half of the century, too, there was a large increase in the circulation of magazines and newspapers.[2] It was the era of the *Tatler*, the *Review*, the *Spectator*, the *Freeholder* and the *Gentleman's Magazine*. But it was also the period of the more ephemeral newspaper. The Press had attained some growth in the seventeenth century and there were even some attempts at commercial advertising. The great development, however, was in the eighteenth century. The first daily newspaper was printed in 1702. By 1724 there were printed in London, 3 dailies, 5 weeklies, 7 thrice a week, and 3 thrice a week halfpenny posts, or 53 issues of various papers per week. The first provincial paper was started in Norwich in 1701 or early in 1702. There followed in rapid succession,

[1] Westerfield, p. 366.

[2] See *Times* Tercentenary Hand List of English and Welsh Newspapers, Sect. II, for provincial newspapers from 1620 onwards. This list misses *Whitworth's Manchester Magazine*, being published in the 1730's. The editor was also apparently unaware that a practically complete file of the *Manchester Mercury*, from 1752 onwards, is in the Chetham Library, Manchester.

Bristol, 1702; Exeter, 1706; Nottingham, 1710; Worcester, about 1710. The earliest newspaper, as far as known in the north, was the *Liverpool Courant*, a semi-weekly, which was begun about May 1, 1712, and published Tuesday and Friday mornings by S. Terry in Dale Street.[1] During the next few years newspapers were begun at Salisbury, Bury St. Edmunds, St. Ives, Plymouth, Cirencester, and Ludlow. Leeds and York both enter the list in 1719. The *Manchester Weekly Journal* was begun in 1718 or 1719 (No. 325 published in 1725), and Derby followed in 1720; Ipswich the same year, and Newcastle in 1725, while the *Gloucester Journal* began about 1722. In 1756 began the publication of *Williamson's Liverpool Advertiser*, a weekly, that afterwards became the *Liverpool Times*. This was followed in 1765 by *Gore's General Advertiser*. *Whitworth's Manchester Magazine* was also published in Manchester during the 'thirties of the century, and in 1752 began the publication of *Harrop's Weekly*, which afterwards became the *Manchester Mercury*, and of which almost complete files, including the first issues, are preserved in the Chetham Library in Manchester.

The *Leeds Intelligencer* began in 1758. From the commercial standpoint the significance of the newspaper is in its widespread dissemination of news affecting the interests of merchants and manufacturers, the medium it provided for advertising, and hence the increasing sensitiveness of industrial and commercial life to movements and events in distant places. The result was to stabilize prices and markets over long periods and to facilitate the growth of wider interests for both trade and manufactures.

[1] Brooke: *Liverpool*, 1775–1800, pp. 81–92.

CHAPTER IX

INDUSTRIAL LABOUR AND SOCIAL CONDITIONS

INDUSTRIAL workers may be classified vertically according to industries, or horizontally according to social classes and economic interests. To a large extent the vertical classification is suitable for the eighteenth century because there was little actual cleavage between employers and employed in most of the industries. The modern classification into employers and workmen is hardly adequate, since there was until after 1760 such a large number of independent or semi-independent producers with one or two employees, but who were still employed the greater part of their time in the actual manual operations of their craft. To follow the first classification, on the other hand, would lead to much repetition. So that while some attention will necessarily be given to the vertical classification, the endeavour will be made to treat industrial labour according to whether it was employed at home or in the house of an employer of approximately the same social grade as the worker, or employed in some capitalistic organization under an employer of a higher social grade. Under the former class will fall most of the textile workers, especially in Lancashire and Yorkshire, and most of the manufacturing labourers in other trades. Under the latter will appear the miners, those engaged in smelting or forging operations, and those employed in the few examples of factory organization that existed in the early eighteenth century. A fairly large class of which not much is known specifically was that of the transport workers of the period. These were the men who drove the horses of the wagons and pack-horse trains that carried such a large volume of

the goods of the country from point to point during and after the process of production; and the class of bargemen and others engaged in the rapidly growing river trade of the period. But here also the suggested classification would hold, as between those who owned their small capital of a single string of pack-horses or wagon and team or small barge, and those who worked for larger men and owned no capital but their labour.

Wages.—The wages of employed labourers ranged from 7*s.* 1*d.* per week in the Manchester textiles to 13*s.* 6*d.* per week in the cutlery and plate works at Sheffield. The average was 9*s.* 6*d.* per week. In the pottery and iron industries the wages were from 9*s.* 6*d.* to 10*s.* a week. At Wakefield the cloth workers received 10*s.* a week, but elsewhere their wages ranged from the Manchester rate of 7*s.* 1*d.* to 9*s.* a week at Carlisle, and 9*s.* 5*d.* in the Stocken, cotton and linsey woolsey industry at Kendal. In Liverpool the wages for porcelain and glass workers averaged about 8*s.* 11*d.* per week. Next to the textile wages at Manchester the lowest wages for men quoted by Young were 7*s.* 6*d.* per week to the allum workers at Ayton, and to the lead-miners at Fremington.[1] Wages for women varied from 3*s.* 3*d.* at Kendal and 3*s.* 6*d.* at Leeds to 6*s.* at the lead mines of Fremington and 6*s.* 6*d.* in the potteries at Burslem, the average of all industries given being 4*s.* 7*d.* per week. Manchester stands well up in this list, the wage for women being 5*s.* 4*d.* per week. This was perhaps due to the demand for spinners, who were chiefly women, and to the fact that cotton-weaving was not too heavy for women to do as well as men. The competition of women may help also to explain why the men's wages were so small. In the lace industry at Bedford, where only women and girls were employed, the wages for women were 4*s.* 6*d.* per week. The same wages prevailed for women in the shoe and hat industries of Newcastle and in the glove trade at Worcester, as well as in the sail-cloth and sacking work at Warrington. Wages for girls ranged from 1*s.*

[1] These wages figures are from the tables in Young, *Northern Tour*, Vol. IV (1771). See also Adam Smith: *Wealth of Nations*, I, 83.

a week at Newcastle to 4*s.* a week in the lace work at Bedford, where they seem to have been either older girls on the average, or have been able to compete on fairly favourable terms with the women. Girls as well as boys and women were employed in the lead mines at Fremington, where they received the same wages as the boys, 3*s.* 3*d.* a week. In Manchester they got 3*s.* 5*d.*, while at Kendal and Warrington in the textile and pin trade they are said to have received 2*s.* 6*d.* per week.[1] The wages of boys were the same as those of the girls, except in the cloth work at Leeds, where they got 5*s.* per week, and the girls employed only received 1*s.* 8*d.* This was probably due to their being employed on different sorts of work. In the iron works at Rotherham girls were not employed, and boys received 3*s.* per week. Coal-miners were a separate class and received relatively high wages then as now. At Wakefield, Young says they received 11*s.* per week, while at Newcastle they got 15*s.* Another writer, quoted in the *Victoria County History of Lancashire*, says that coal-getters received in the 'seventies 2*s.* a day and labourers 1*s.*[2]

A writer in 1756[3] on the amount of taxes paid by the various classes of the community indicated some of the current wages. A manufacturer of wood, iron, etc., in London might be receiving 12*s.* per week, a silk worker 10*s.* 6*d.* per week, wood and iron workers outside of London 9*s.* per week, woollen cloth and stuffs-workers 7*s.* 6*d.* per week, while he puts the husbandman or labourer at 5*s.* per week. These paid from 1*s.* 3*d.* to 2*s.* 4*d.* in the £ on their wage, in taxes on beer, salt, sugar, leather, soap, candles, coals, drugs, spirits, tobacco and window-tax.

The accounts of the building of a Baptist chapel at Bacup in 1746 show that 1*s.* a day, more or less, was the wage for ordinary labour at that time in rural Lancashire. One Richard Lord worked several days at 11*d.* per day at

[1] In another place (*Northern Tour*, III, 165) Young states that the boys and girls in the pin manufactory got from 1*s.* to 2*s.* per week.
[2] *V.C.H., Lancs.*, II, 358.
[3] J. Massie: *Calculation of Taxes paid by different Classes of the Community*, Rylands Library, Pol. Pamph., Vol. 72, T.3.G.

different sorts of work. When he used his horse as well, the wage was 1*s.* 9*d.*; when he took two horses it was 2*s.* 7*d.*, or with a cart as well, 2*s.* 11*d.* per day. Another account in connection with the same building shows that three men named Hardman, probably father and two sons, worked altogether 126 days on the building and received £6 16*s.* 6*d.*, which was at the rate of 1*s.* 1*d.* per day.[1] Similar wages were paid in 1749 in connection with the building of the pottery house where Wedgwood entered into partnership with Whieldon at Fenton. Some of the labourers received 1*s.* a day and some 11*d.* for such work as digging the cellar. In connection with the same works the wages of potters seem not to have been nearly so large as those given by Young twenty years later. John Austin was hired at 5*s.* 6*d.* per week for "placeing white," etc., and received an earnest gift of 3*s.* as well. Another man hired a little later got 6*s.* 6*d.* for veining, but he in addition received a pair of Stockins valued at 3*s.* 6*d.*, and earnest money of 15*s.* in advance for his handicraft skill. This payment of earnest gift at the hiring was a characteristic of the potter's bargains at that period. The earnest ranged from 1*s.* to £2 2*s.*, or more according to the skill required for the particular task. Sometimes it was paid partly in kind, either in new or old clothes. In one instance in the accounts above, 7 yards of cloth was given.[2] In another instance, where the hiring was for two years, the workman was to get a pair of shoes each year. In conclusion, then, it may be said that industrial skilled labourers received from 1*s.* to 2*s.* a day, while unskilled labourers received around 1*s.* a day. An exception to this general rule is observed by Defoe in the lead mines of Derby, where a woman living in a cave in the rock said her husband could earn 5*d.* a day, if he was lucky; and she, if there were not so many children, could earn 3*d.*; but she thanked God they were very comfortable.[3]

Young's estimates for many of the domestic workers

[1] Hargreaves: *The Baptist Church at Bacup* (1816). Extracts from different accounts of the building in 1746 of the chapel there.
[2] Jewitt: *Life of Josiah Wedgwood*, pp. 113–16.
[3] Defoe: *Tour*, III, p. 80 (Ed. 1769).

have been mentioned. For the most part the domestic workers were on piece rates, and it is difficult to estimate their weekly earnings with the information now to be had. About 1770 the cotton weaver of the cottager class could earn from 8*s.* to 10*s.* 6*d.* per week and his sons 6*s.* to 8*s.*[1] In the cotton manufacture of 1741 we learn that 17 lb. of 1*s.* 6*d.*[2] weft occupied a family fourteen days, and the wages earned represented 18*s.* for the weaving, 9*s.* for the spinning, and 8*s.* for the cleaning, carding and roving—a total of 35*s.* as the earnings of a family for fourteen days.[3] Of course, if the family could not manage the preliminary operations themselves, a portion of that would go to others.

Some information is available with regard to the Gloucestershire weavers in 1756. The wages assessment of the Quarter Sessions in 1727 had set the rates for broadcloth weaving at from 3*d.* per yard for a cloth of 400–500 threads to 24*d.* per yard for 100 to 200 threads.[4] The workers claimed that the clothiers had been disregarding this assessment and making separate bargains with weavers at lower rates. The masters, as usual, said conditions were due to depression of trade, to the intemperance and bad economy of the labourers, and to the increase in the number of weavers. Certainly all the evidence seems to show that living was cheaper in the north, and also that drinking of malt and spirituous liquors had made greater strides in the south than in the north. Both these facts would help to explain why the clothiers found the competition of Yorkshire very difficult to meet. But they claimed that a loom earned from £35 to £40 per annum, presumably where the loom could be kept steadily employed. This amount had to be divided amongst the master, journeyman and a child for a quill-winder. If there were too many weavers, of course few would earn the full amount, and the distress the weavers complain of can be easily understood. The weavers, on the other hand, complained that in many sorts of work they could hardly earn 4*d.* with sixteen

[1] Lord: *Memoir of John Kay of Bury*, p. 21.
[2] Hewins: *English Trade and Finance.*
[3] *Ibid.*, Appendix II.
[4] *Ibid.*, pp. 118–25.

hours' work. Probably the truth as to the condition of the average weaver is somewhere between the two statements. The dispute is evidence that with the growing complexity of industrial operations, and with the growing freedom of industry from legislative "interference," the wages assessment was being found impracticable, and was rapidly falling into disuse.[1]

Assessments.—The petition of the weavers in Gloucester,[2] referred to above, was for a time successful, and in 1756 an Act [3] was passed reviving the assessment. The Somerset weavers at the same time did not succeed in getting an assessment. In Gloucester the men had difficulty in getting even a partial assessment made, and many of the masters refused to obey it. The following year the clothiers petitioned Parliament, and with the support of the masters in Somerset and Wilts succeeded in having the wages clauses of the Act of 1756 repealed, declaring it to have proved mischievous and inconvenient.[4]

Truck System.—Another difficulty against which labour had to contend during the century in connection with their wages was the truck or payment in kind system. Following a petition of some west-country weavers, an Act was passed in 1702 forbidding the payment of wages in truck,[5] and making provision against the embezzlement of material by the workpeople. This Act included the woollen, cotton, fustian, and iron manufactures, and was made perpetual in 1710. In 1740 it was extended to include the leather industry, and in 1749 it was made to cover the silk, mohair, flax, hemp, and fur manufactures.[6] Other Acts passed in 1726 and 1727 also prohibited the truck system of paying wages. But the evil was difficult

[1] In Yorkshire the wages lists were being enforced, up to about 1732. But though reissued each year until 1812, they ceased to have any close correspondence with the actual wages paid. *Economic Journal*, Vol. XXIV, pp. 218–35, where Mr. Heaton compares the list with the wages recorded by Young and Marshall.

[2] Hewins: *Eng. Trade and Finance*, pp. 118–25, gives a full account of this petition.

[3] 29 Geo. II, c. 33.

[4] 30 Geo. II, c. 12.

[5] 1 Anne, c. 18.

[6] 13 Geo. II, c. 8, and 22 Geo. II, c27; 1710, 9 Anne, c. 32.

to suppress, for in 1784, through the activities of the Worsted Committee in Yorkshire, a Leeds dyer was convicted of having paid in truck; and in 1802 the same Committee issued a thousand handbills concerning the evil.[1] There were further Acts to suppress the system in the nineteenth century, but with these we are not now concerned.[2]

Bonding of Miners.—Another point in connection with the wages question, the bonding custom which prevailed in the mines of Northumberland and Durham down till 1644, should be mentioned.[3] It was customary for the men to sign a yearly bond, agreeing to work for a year at a certain wage, although it carried no guarantee of steady work. An attempt was made in 1765 by the owners to transform this into a practical serfdom by an agreement amongst themselves not to hire a miner from another mine unless he brought a certificate of discharge from his former employer. As this applied to the usual hiring time (October) as well as to other times, it would have given the owners complete control over their men. In protest the men to the number of some 4,000 went on strike, and after some time won their point.[4]

Conditions of Labour Hours.—One of the evils of the early factory system was the length of the hours of labour. There is no doubt that expensive machines made the employer more desirous of keeping his workpeople busy feeding the machine, and this would tend to make the hours of labour, if not longer, at least much more continuous and trying than where a minute or two might be spent in leisure to break the strain once in a while. The weavers in Gloucester speak of working sixteen hours to make fourpence in some sorts of work.[5] A witness the following year, and one who was favourable to the masters, said that his hours were fourteen.[6] A writer in the *London Chronicle*

[1] Heaton: *Yorkshire Woollen and Worsted Industry*, p. 431.
[2] E.g., 1817. The struggle against truck was specially lively in the early nineteenth century in the mining, woollen and hosiery industries.
[3] Cf. the Scottish custom in coal-mines and salt-works, where the labourers were bound to the property until 1790.
[4] Hammond: *Skilled Labourer*, pp. 12–17. In this strike the men had public opinion very largely on their side.
[5] Hewins: *Eng. Trade and Finance*, pp. 118–25.
[6] *Journal of the House of Commons*, Feb. 12, 1757.

during the coal strike mentioned above, says that the men are "shut off from the light of heaven for sixteen or seventeen hours a day."[1] Nevertheless, in some instances the hours of labour were extended by the introduction of factories. An old man apprenticed in 1755 recalled the conditions of his youth, and his description is considered by the Factories Commission.[2]

"When a lad, the workpeople laboured ordinarily ten hours a day five days a week, the Saturday being always left open for taking work to Nottingham, gardening, etc., through the middle of his life he worked twelve hours a day, but of late years they work of necessity fourteen to sixteen hours a day."

In this trade, the framework knitting, in his working-time, from 1755 to about 1785, fluctuations in wages were almost unknown. But in spite of the fifty-hour week the weight of evidence goes to show that except where there were special conditions preventing it, the normal working day was, according to modern standards, a very long one.

Freedom from Supervision.—The greatest advantage of the domestic system of labour was not in shorter hours but in the comparative freedom from supervision which the toiler enjoyed, in the possibility of the family working together, and in the fact that most of the cottages where the workers lived were in the country.

"In many domestic industries the hours were long, the pay was poor, children worked from a tender age, there was overcrowding, and both home and workshop were rendered less desirable from the combination of the two under one roof. . . . But the home-worker at his worst," say the Hammonds in summing up his position, "was in many respects his own master. He worked long hours, but they were his own hours; his wife and children worked, but they worked beside him, and there was no alien power in their lives; his house was stifling, but he could slip into the garden; he had spells of unemployment and he could sometimes use them to grow cabbages. The forces that ruled his fate were in a sense outside his daily life. They did not overshadow and envelop his home, his family, his movements, his hours for work, for food. The

[1] *Lloyd's Evening Post*, Sept. 25–27, 1757. Hammond: *Skilled Labourer* p. 18.
[2] Factories Enquiry Commission, 1833, c. I, p. 180.

new order turned the discomfort of the life of the poor into a rigid system." [1]

This passage is perhaps all the more powerful because there is no reference to the pride of the craftsman in his handiwork, nor any assumption of greater comfort in the material sense than the modern labourer enjoys, arguments that sometimes obscure the essential point in discussing the conditions of labour. Weaving and spinning could be just as monotonous in a cottage as in a factory, the air as stifling, the hours as long, the pay as poor. For the greater part, the domestic worker's advantage lay in the comparative freedom from supervision, the dwelling in the country where the surroundings, if not the cottage, would be more conducive to health, in the unity of the family in the manufacture within the home, and in the fact that the apprentice and journeyman could hope for an establishment of their own where they would have their own little plant, and earn their living as their own masters.

Conditions on Canals, at Black Furnaces and Mines.—In the industries where the worker had to leave his home for the plant of his employer, conditions were not so pleasant, in most cases by reason of the nature of the employment. Mines were dangerous and unpleasant places in which to work, and devices for securing the safety of the workers were crude or non-existent. Foul air had to be fought in all the mines, while there was always the danger of an earth-fall or of flooding with water. In the coal-mines in addition the fire-damp had to be combated. In the blast furnaces and forges the methods were crude and the work as exhausting and unpleasant as to-day. Transport was a heavy and arduous task, especially on the new canals, where much of the towing was done by human power.

John Fletcher, rector of Madeley, in Shropshire, and the finest controversial writer amongst the early Methodists, has left us in his "Appeal to Matter of Fact and Common Sense" a description of the conditions under which the labourers of his parish worked in 1772. The language is somewhat rhetorical, but, as it is not familiar in economic

[1] Hammond: *Town Labourer*, p. 18.

literature, it is worth an extensive quotation. When he wrote this he had been rector at Madeley for twelve years, so that he was familiar with what he is describing.[1] It is not perhaps a fair sample of his style but is a truthful description of the condition of a large number of his parishioners in the coal-mines, iron-works, and on the barges of the time.

He says of the miners:

"They take their leave of the light of the sun and suspended by a rope are let down perpendicularly many fathoms toward the centre of the globe; they traverse the rocks through which they have dug their horizontal ways. The murderer's cell is a palace in comparison of the black spot to which they repair; the vagrant's posture in the stocks is preferable to that in which they labour.

"Form if you can an idea of the misery of men kneeling, stooping or lying on one side, to toil all day in a confined place where a child could hardly stand; whilst a younger company, with their hands and feet on the black dusty ground and a chain about their body, creep and drag along, like four-footed beasts, heavy loads of the dirty mineral, through ways almost impassable to the curious observer.

"In these low and dreary vaults all the elements seem combined against them. Destructive damps and clouds of noxious dust infect the air they breathe. Sometimes water incessantly distils on their naked bodies; or bursting on them in streams, drowns them, and deluges their work. At other times pieces of detached rocks crush them to death, or the earth, breaking in upon them, buries them alive. And frequently sulphureous vapours, kindled in an instant by the light of their candles, form subterranean thunder and lightning. . . .

"Wonderful providence! Some of the unhappy men have time to prostrate themselves; the fiery scourge grazes their backs; the ground shields their breasts, they escape. See them wound up out of the blazing dungeon. . . . A pestiferous steam and suffocating smoke pursue them. Half-dead themselves, they hold their dead or dying companions in their trembling arms. . . .

"Leave these black men at their perilous work, and see yonder bargemen haling that loaded vessel against wind and stream. Since the dawn of day, they have wrestled with the impetuous current, and now that it almost overpowers them, how do

[1] Fletcher: "Appeal to Matter of Fact and Common Sense," 1772. Quoted in Tyerman; Wesley's Designated Successor: *A Life of John Fletcher of Madeley*, 1872, pp. 258–9.

they exert all their remaining strength and strain their every nerve? How are they bathed in sweat and rain? Fastened to their lines as horses to their traces, wherein do they differ from the laborious brutes? Not in an erect posture of the body, for, in the intenseness of their toil, they bend forward, their head is foremost, and their hands upon the ground. If there is any difference it consists in this; horses are indulged with a collar to save their breasts. . . .

"Stop to consider the sons of Vulcan confined to these forges and furnaces. Is their lot much preferable? A sultry air and clouds of smoke and dust are the elements in which they labour. The confused noise of water falling, steam hissing, fire-engines working, wheels turning, files creaking, hammers beating, ore bursting and bellows roaring, form the dismal concert that strikes the ears; while a continual eruption of flames ascending from the mouth of their artificial volcanoes dazzles their eyes with a horrible glare. . . . See them cast; you would think them in a bath and not a furnace; they bedew the burning sand with their streaming sweat, nor are their garments dried up by the fiery fires they attend or the fiery streams they manage. . . ."

Even when full allowance is made for the rhetorical tendency of this extract, it will be seen how undesirable was the lot of many of the workers who went abroad from their homes to their work. Less disagreeable, but still not so pleasant as home conditions, were the pin works, the glass and pottery works. On the eve of the Industrial Revolution, too, the first steps to regulating and supervising the factory work on modern lines of organization. These were introduced into the Soho Iron Works at Birmingham and were copied by Josiah Wedgwood, who, because of his personal qualities, was able to introduce them without trouble from the workmen. One feature was that of the factory bell which he put up on the works at Burslem to call the workers in at a definite time where they had been wont to straggle in as they pleased.[1] This difficulty, that of the irregular habits of the workpeople, was undoubtedly one against which all employers who were trying to extend their works had to contend, not all as successfully as the pottery master. Even he was only able to introduce the discipline very slowly.

[1] Jewitt: *Life of Josiah Wedgwood*, pp. 129–31.

Child Labour.—Another evil of the factory system which existed in considerable measure under the domestic system was that of child labour. Defoe tells with pleasure that in the clothing area near Halifax, scarce a child over four years did not earn its own bread.[1] Mrs. Montague, the famous blue-stocking, was also a colliery owner in the north, and she says in 1775 that "boys work in the collieries from seven years of age."[2] A particularly bad instance of the use of child labour is furnished by the chimney-sweeping trade, which was a practice peculiar to the British Isles.

"It came into vogue in the early eighteenth century, but did not spread to Scotland till about 1788. On the Continent it was unknown. As chimneys developed from wide funnels into narrow and complicated flues, their cleaning became a more difficult matter; and the discovery of human brushes that would crawl along any flue, however sharp the angles and however winding the passage, encouraged builders to further feats of complexity."[3]

We learn from a writer in 1774, however, that some of the more enlightened minds were beginning to discern the loss to the nation from such practices. This man writing from the standpoint of public health says:

"It is a common but injurious custom in manufacturing counties to confine children, before they have reached a sufficient degree of strength, to sedentary employments in places where they breathe putrid air and are debarred from the free use of their limbs. The effect of this confinement is either to cut them off early in life, or to render their constitutions sickly and feeble."[4]

The physique of the industrial inhabitants of great cities in Britain still suffers from this short-sighted devotion to immediate profit; and was perhaps one of the chief causes of the large proportion of C grade men in the recent war. For the effects of depressing the health of a nation can hardly be eradicated in a generation or two, and we are

[1] Defoe: *Tour*, III, p. 137; also at Manchester (III, p. 252), "the smallest children being all employed and earning their bread." (Ed. 1762.)
[2] Hammond: *The Skilled Labourer*, p. 18, quoted from *A Lady of Last Century*, by Dr. Doran, pp. 199 ff.
[3] Hammond: *The Town Labourer*, pp. 176–7.
[4] Percival: *Essays*, III, p. 54.

only now correcting the mistake of employing growing children.

Apprenticeship.—The Act of 1563,[1] commonly called the Statute of Apprentices, aimed at securing that entry into the various crafts should be effectually guarded from insufficient training. The only workers exempted from its provisions were the makers of the coarsest wares of Cumberland, Westmoreland, Lancashire and Wales, i.e., friezes, cottons, and "huswives cloth." This Act was for a time strictly enforced. But the increase of country craftsmen, the increasing demand for labour with the growing market for English goods, and the rise of the new cotton industry, all assisted in relaxing the strictness of enforcement. Legal apprenticeship died out in the south before it did in the north. During the eighteenth century there existed in the north, in Lancashire and Yorkshire, a customary apprenticeship, alongside the legal. Because of the exemption of the cotton industry from the statute, the customary apprenticeship held sway in Lancashire very largely, while in the first half of the century in Yorkshire it was the legal that held the balance.

In 1747 there was an organization of worsted small wares weavers in Lancashire,[2] and one of their regulations was that no master should take an apprentice for less than seven years, unless the apprentice was fifteen years of age, when the time might be six years. This would indicate that there was no legal compulsion felt in the matter. At the same time in Yorkshire the legal enactments seem to have fallen into neglect in the country districts, but in the towns, and especially in Leeds, the justices were attempting up till the middle of the century to enforce the provisions of the Act. Cloth-workers seem to have been the worst offenders, but other trades were frequently represented before the authorities. After 1750, however, the justices seem to have abandoned their attempts to enforce the law, for such prosecutions cease to appear in the Court Records.[3] By the

[1] 5 Eliz., c. 4.
[2] *Worsted Small Wares Weavers' Apology*, 1756. Manchester Reference Library, No. 28266.
[3] Heaton: *Yorks. Woollen and Worsted Ind.*, pp. 310–11.

end of the century legal apprenticeship was practically dead.

The customary apprenticeship survived, however, and in the woollen industry remained till the coming of mills and factories. We have seen that even in that part of the country that was exempted from the legal obligations there was a customary agreement amongst the undertakers. The apprenticeship system had become part and parcel of the domestic system, and until that went, apprenticeship held a large place. As late as 1725 the Parliament attempted to enforce the legal term in the broad woollens trade.[1] But this distinction against one part of the industry was doomed to failure, and when the Act was renewed in 1733 the apprenticeship clauses were dropped out.[2]

A recent writer has given a picture of the apprenticeship system in the woollen industry in the eighteenth century, that presents the essential features.[3] Apprentices might be drawn from three classes. He might take his own son and teach him the business, in which case the apprenticeship was often an unwritten agreement.[4] The apprentice might be the son of a neighbour or friend or of some one else who wished him to learn the trade. In such cases there would be a legal document, and the master frequently got a premium for taking the boy. The third class of apprentice was not so popular. When a pauper boy reached an age thought fit, the authorities of the Poor Law would look about for a master for him. The master was forced by law to take a pauper child when called upon unless he could get exemption from the justices. There was provision for an apprentice to be released from his bond, if his master died, or ill-treated him, or failed to teach him as he should. Apprentices were frequently released by the justices for these causes. On the other hand, the master had recourse to the courts if an apprentice proved persistently disobedient, careless, lazy, or otherwise unsatisfactory.

[1] 2 Geo. I, c. 24.
[2] 7 Geo. II, c. 25.
[3] Heaton, cited above, pp. 301–8.
[4] Josiah Wedgwood was bound apprentice to his brother, who succeeded to the father's business; but in this case there was a regular legal bond drawn.—Jewitt: *Life of Josiah Wedgwood*, pp. 92–3.

In the commercial branches, however, apprenticeship became even more popular. Youths from good families were bound apprentices to some merchant, and as this practice grew larger and larger premiums were paid. Defoe remarks on this increase in the premium as early as 1726.[1] Aikin tells how about the middle of the century a large number of young men of good family were apprenticed to Manchester merchants.

"The fees of apprentices becoming an object of profit, a different manner of treating them began to prevail. Somewhat before 1760 a considerable manufacturer (i.e., a merchant manufacturer) allotted a back parlour for the use of his apprentices and gave them tea twice a day. His fee in consequence rose higher than had been known before, from £250 to £300, and he had three or four apprentices at a time. The highest fee known as late as 1769 was £500." [2]

Labour Organization.—Before leaving the question of labour, one point remains: that of the extent of labour organization before the Industrial Revolution. Under the more independent forms of domestic organization there is but little differentiation between the journeymen who form the bulk of the employed labour and the masters. Socially they are nearly on a level, as the journeyman has probably come from a neighbour's home, or that of a friend. Economically the journeyman in a few years' time, if he wishes, can be as well off as his master, or at least as independent. With the growth of capitalistic organization, however, a sharper line is drawn between the employers and employed, and the distinction is both social and economic. The employer begins to acquire the outlook of a merchant manufacturer; the wage-earner gradually ceases to expect to be anything but a wage-earner. Hence the two portions of the industrial sphere begin to be conscious of class division, and at the same time of a divergence of interests. As this consciousness of opposing interests becomes clearer, the tendency will be for each class to form organizations of its own.

The results of this differentiation of classes are seen in

[1] *Complete English Tradesman*, p. 193.
[2] Aikin: *Description of Manchester*, pp. 183–4.

the textile industries of the Continent in the fourteenth and fifteenth centuries. Amongst the other associations that arose at that time were gilds of wage-earning journeymen who, although they never secured full rights to a separate organization, were an important part of the industrial life of the time. There are records of several disputes on a fairly large scale in the fourteenth century, and the organizations of the fullers and weavers assumed an international aspect.[1] But when the textile industries expanded they passed beyond the limits of the town organization, and as the domestic industry took definite shape, the centre of gravity shifted to the small masters, who were essentially working capitalists on a small scale. The oldest and best journeymen constantly passed into the ranks of the masters and so destroyed the continuity of any organization that might be formed by the journeymen.

But as capital began to flow back from the commercial sphere and control the organization of production, the wage-earning classes again came to be a separate class, with special interests and consciousness of common needs. Prof. Unwin points out the essential difference between the situation in the eighteenth century in England and that of the fourteenth and fifteenth on the Continent.[2] In the earlier centuries there was an essential monopoly of material and the instruments of production, held by the employing classes; but in the later period there was a free flow of capital, and it was open to any journeyman to enter the ranks of the capitalistic organization. It is pointed out in another work that the tardy growth of stable independent combination amongst hired journeymen is to be found in the prospect of economic advancement which they still possessed. An analogy is suggested with piecers in the cotton industry, who even to-day have no strong separate organization because their oldest and best members are constantly passing into the ranks of the spinners.[3]

[1] Daniels: *Early English Cotton Industry*, Introduction, by Prof. Unwin, pp. xxii and xxiii, for instances and further references.
[2] *Ibid.* p. xxv.
[3] Webb: *History of Trade Unionism* (Revised edition, 1920), pp. 6–9.

Unions of Better-paid Workers.—Organizations of workers seem to have sprung not out of any special institution, although analogies with previous ones might exist, but rather out of the gathering together of wage-earners in the same craft. Sometimes, indeed, it was in the heat and stress of a spontaneous strike that a permanent organization was born.[1] But still most of them were combinations of the better-paid classes of workmen, such as the woolcombers, the shipwrights, the carriers, hatters, the calico printers, etc. The hatters had an organization as early as 1667, and their persistence is shown by the fact that they were able to hold congresses in the 'seventies of the eighteenth century.[2] In 1720 the "master-taylors" of London are complaining that the journeymen have a combination to reduce hours and raise wages. The masters secured an Act of Parliament forbidding the union. In 1744 the Privy Council machinery was set in motion against the men's refusal to obey the former Act. In 1750–1 the organization was still strong enough to secure from the Middlesex justices an order for higher wages, and in 1767 further legislation was passed against them.[3]

Woollens.—Amongst the clothiers of the West of England there were extensive combinations as early as 1675, and in 1682 they refused in concert to work for less than 12*s.* a week. In 1717 there was a widespread combination of wool-workers in Devon and Somerset, and throughout the rest of the century there are numerous complaints to the House of Commons of the continuance of workmen's combinations of one kind or another. Most of these disturbances in the clothing trade were in the south and west; but Yorkshire, although it was still largely on the domestic system, suffered also. Yet combinations were much less prevalent there than in other parts. The most prominent disputes in Yorkshire were those of men engaged in the

[1] Webb: *History of Trade Unionism* (Revised edition, 1920), p. 23.
[2] *Economic Journal*, Vol. X, pp. 394–403. Prof. Unwin says of the Hatters' Union that "it is not too much to say that the society . . . by 1777 had had a more or less continuous existence for the greater part of a century."
[3] Webb: *History of Trade Unionism*, pp. 30–1.

worsted trade, which was organized on a more capitalistic basis than the woollens.

During the early part of the century Parliament still retained some vestiges of Elizabethan sympathy with the condition of the workers. An Act passed in 1721 at the instance of the Master Tailors restraining the masters from giving or the journeymen from receiving more than a stated maximum wage remained a dead letter because of the resistance of the men. In 1726–7 the Privy Council dealt favourably with a petition from the weavers of Wilts and Somerset, though in the same year an Act was passed against combinations of workmen in the woollen trade. In 1728 the Gloucester magistrates fixed a liberal scale of wages, but the weavers did not generally succeed in securing the recognition they wanted, and resorted to combination. The most successful attempt at raising wages by combination occurred in Wiltshire in 1738. In 1748 special provision against truck payment of wages,[1] and in 1756 the Gloucester weavers succeeded in having an Act of Parliament passed to have their piece rates fixed by the justices.

But these were ineffectual attempts to stem the tide of commercial influence in Parliament. High wages were discountenanced because they hindered foreign trade, and therefore decreased the inflow of treasure. From the proclamation against combinations in 1719 the influence of the commercial classes was steadily thrown into the scale against the workers, and the Act relating to the Gloucester weavers in 1756 was the last flicker of real sympathy with the workers, and power passed to the employers, who were primarily interested in increased production. From that time the story is one of repression, culminating in the Combination Acts at the end of the century, and that period of strict repression out of which has come so much of the bitterness characteristic of modern relations between employers and employed.

Small Wares Weavers' Combination.—A recent writer has given a full account of the organization of the workers in two of the three main trades in the Manchester area in

[1] Webb: *History of Trade Unionism*, pp. 49–50.

the 'fifties of the eighteenth century, based largely on information in contemporary literature.[1] Only a brief summary of the essential points can be attempted here. In both the check and small-wares trades the workpeople attempted through combination to maintain and advance their economic position. The two main classes in the industry were the merchant-manufacturers, who were the real employers, and the undertakers, journeymen, and apprentices, who represent the workers. The latter class had an organization as early in 1747. It would appear that apprentices were being taken for short periods, and that some of the masters were taking more than the usual number to augment their supply of labour. The combination was evidently intended to check this tendency and also to get the apprentices taken by the merchant-manufacturers under control. The first article of 1747 says that no master shall take apprentices for less than seven years, and that he shall not take more than three at a time. In 1753 provision was made for children of weavers to be registered at twenty as having served their time. Women were recognized on the same conditions as men.

The increasing stringency of the rules would indicate that the combination was spreading and perhaps was not succeeding in its aims. In 1756, following on some years of high food prices, the problem of wages became acute and rioting was prevalent till the end of 1757.[2] The small wares weavers issued an apology defending their position. They commenced to hold meetings once a month composed of a representative from each shop. The shop was probably the group employed by one master. By 1759 the situation had become acute enough for the masters to advertise that no work would be given to any person interested in unlawful combinations and single out the

[1] Daniels: *Early English Cotton Industry*, pp. 41–55. Based chiefly on *The Small Wares Weavers' Apology*, 1756, the accounts in the *Manchester Mercury* of current issues, and a letter from Thomas Percival, a prominent landed proprietor living at Royton, near Oldham.

[2] Refer to *Manchester Mercury* for the period, especially June, 175 Sept. 30, Nov. 8, 1757. *Whitworth's Advertiser*, June 14–21, 1757, prints a letter of defence from the firm whose property was attacked. See *Lancs. and Ches. Antiq. Soc.*, Vol. XXVIII, pp. 82–91, for an account and defence of the millers and merchants.

small wares weavers for special mention. In 1760 a number of them appeared at the Lent Assizes at Lancaster to answer an indictment for a combination to raise wages. They handed in a submission, dissolving the combination. Their box or treasury for contributions was to be permitted only until their debt was paid, and then it was to be discontinued.

Check Weavers.—The organization of the check weavers was similar. Lord Manfield, at the Autumn Assizes at Lancaster in 1758, issued a warrant for the arrest of nineteen stewards concerned in the combination. His charge is interesting as showing the organization.[1] He said he had been informed of

"great disturbances in Lancashire occasioned by several thousands having left their work and entered into combinations for raising wages, and appointed meetings at stated times—formed themselves into a committee at such meetings and established boxes and fixed stewards in every township for collecting money for supporting such weavers as should by their committee be ordered to leave their masters, and made other dangerous and illegal regulations; that they had insulted and abused several weavers who had refused to join in their schemes and continued to work, and had dropped incendiary letters with threats to masters that had opposed their designs. . . ."

Thus it is seen that the essentials of a union were already in being, viz., the endeavour to improve their position by collective action, the collection of funds to be used as strike pay, picketing and threats against employers. One difference is noticeable—they had not yet reached the stage where they dealt with the employers as a whole, but a strike affected only the masters who refused to accede to their demands. The two points in dispute, the standard length of the cloth and the question of unfair weavers, led to a lock-out by the masters in May or June, 1758. There were three different proposals for a settlement before the lock-out ended in October with the weavers' submission. In the spring of 1759 thirteen check weavers from Manchester, two each from Pendleton and Salford, and one from Rusholme, appeared at the Assizes, and the plea of lenity prevailing they were let off with a fine of 1s.

[1] *Manchester Mercury*, Sept. 5, 1758.

each. The law, however, did not destroy the combination because there was another dispute in 1781. This ended in an agreement which was signed by the masters and one man from each "shop."

Wool-combers.—In the woollen industry of Yorkshire there were some spasmodic disturbances and one or two attempts at a strike, but little evidence of any actual combination. Following a strike in 1743 there was an indictment of three men and others as yet unknown on a charge of unlawful combination, but no details of their organization are available.[1] In the worsted industry, however, it was different. The organization of this class had spread from the south and they held the masters somewhat in awe by their strength. The wool-combers in particular had a strong organization that was almost national in its scope. It was in existence some years before 1741, when it is described by a pamphleteer.[2] It had evidently begun as a friendly society, the members paying *2d.* or *3d.* a week and receiving benefits when sick or unemployed. Gradually the union began to dictate to the masters and boycott those who would not agree to their terms. When a member was out of employment he was given a travelling ticket, and money to enable him to seek work elsewhere. Apart from these instances, however, there was not much organized labour in the West Riding.

Miners.—It is curious that there was not an early organization of the miners. They were a class who lived in segregated areas; they were under a capitalistic organization from the beginning, and certainly they were amongst those who needed organization. On occasion they could act together as in the strike of 1765 over the bonding custom, when some thousands of them held out until they had won a victory. But it was not till the threat of a strike in 1811 that any notice seems to have been taken of a brotherhood or organization amongst the men.[3]

Clothing.—In a previous chapter some attention was

[1] Heaton, p. 317.
[2] "A Short Essay on Trade in General," by a Lover of his Country, 1741. Quoted by James, *History of the Worsted Industry*, p. 232.
[3] Hammond: *Skilled Labourer*, p. 22.

given to the houses of the country workers.[1] We have from Bamford a description of the clothing and food of the population in the woollen districts,[2] that with some slight variations is probably true of most of the industrial population. The working dress of the women was a blue flannel bedgown with sleeves to the elbow, a petticoat of the same material, with an apron, sometimes of linen, to match. Young women wore their hair down their back, while married women wore mob-caps. Their hose were of white or black woollen yarn. Shoes were strong, well fastened with leather straps and buckles. For outdoor wear they used a silk handkerchief over the head or a broad-brimmed gipsy hat of felt or chip covered with silk. In the winter they brought out the best article of apparel they had, which was an ample crimson cloak of fine wool, double milled, with a hood attached.

The working dress of the men was a low-crowned hat with a broad brim, blue or drab short coat or jacket of coarse woollen or fustian. They wore a waistcoat without neck-collar and with long flapping pockets; a pair of breeches buttoned at the knees and generally of strong fustian or sheep's leather; brown or blue hose, and very strong shoes nailed with clinkers and fastened with straps and buckles. In the flannel districts they also wore a striped flannel apron, usually greasy with the oil used in the woollen processes.

Food.—The breakfast of the working classes consisted of oatmeal porridge with an oaten butter-cake and sometimes a piece of cheese and oat-cake. For dinner they sometimes had dumplings, boiled meat, broth and oaten bread. Potato pies were not uncommon, seasoned with beef or mutton. In the afternoon they had oat-cake, and their supper was largely a repetition of breakfast. Fuller details of the food in Lancashire are given in a previous chapter.[3]

Public Health.—The towns of the period, especially

[1] See chap. VII, "Economic Organization of Production."
[2] Bamford: *Introd. to Works of Tim Bobbin*, ed. 1850.
[3] See chap. IV, "Social Conditions and Labour."

those that were growing at all rapidly, were much overcrowded and very unsanitary. One of the earliest historians of Liverpool computes that there were 4,200 houses for the population of about 25,000 in 1760. He worked out the average per house, excluding those in schools, poor-houses and the infirmary, at $5\frac{9}{10}$ per house. In Northampton about the same time there were $4\frac{3}{4}$ per house, and in Birmingham a little more than five. He concludes that there was probably no place in Great Britain, except London or Edinburgh, which contained so many people in so small a space. The whole area of the town, including the docks, yards and warehouses, was not larger than Manchester or Birmingham, yet they had more people than either.[1] He says that

"the streets are much too narrow for convenience, ornament or health . . . the houses are so crowded that the inhabitants are much more indebted to nature than to art for their health."

Probably every one built

"in whatever place or form best suited his own purposes without consulting the appearance of the town or so much as imagining that it would afterwards be of any consequence to the public what situation he chose."[2]

The result of such a haphazard system was of course great irregularity and inconvenience when the town became crowded.

The death-rate of Liverpool was very high, and it was considered one of the healthiest in the kingdom in proportion to its population. In 1750 there were 1,065 deaths, which is at the rate of 48 per thousand of the population,[3] or, to use the phrase then in vogue, 1 in 22 of the population. In 1770 the deaths were 1,555, so that much the same rate was being maintained. Enfield gives the details of the deaths in 1772, which was an exceptionally healthy year. Of the 1,085 deaths, 83 were from fevers and 219 from smallpox, or not much less than one-third of the deaths. Consumption is credited with another 358, or more than a third.[4]

[1] Enfield: *History of Liverpool*, 1774.
[2] *Ibid.*, p. 20.
[3] Cf. the present rate of 12 per thousand in London.
[4] Enfield, p. 31.

Nearly two-thirds of the deaths then were from fevers, smallpox and consumption, which to-day are responsible for only a few deaths per annum. Nearly half of the deaths were of children under five years of age. This compares favourably with London at the same time, where more than half of the deaths were of children under three years of age.

That these figures were not unusually high at that time, we learn from Percival's *Essays on Population*. He was a Manchester doctor and one of the pioneers in the science of public health. He made what were for that time careful and somewhat extensive inquiries into the death-rate of different places. Taking the survey figures of Manchester for 1757 at nearly 20,000, he finds the death-rate of Manchester was 1 in 25·7 people; Liverpool was 1 in every 27 people; London 1 to 21 people. Half of the children born in Manchester die under five years of age. The country districts were much healthier. The death-rate in Monton, a few miles from Manchester, which being in the vicinity of a moss he thought would be unhealthy, had been for ten years, 1 to 68 of the population. But "the people are most of them farmers and are remarkable for their diligence and sobriety." At Horwich, between Bolton and Chorley, the death-rate was 1 in 66, the people there being about equally divided between farmers and manufacturers. At Darwen, 3 miles from Blackburn, a bleak and elevated district, poorly cultivated, and the people mostly engaged in the cotton industry, the rate for seven years had been 1 in 56. At Cockey Moor, near Bolton, although the rate had been raised by a severe epidemic of smallpox, it had only reached 1 in 44. At Chowbent, where the people were engaged in the linen, cotton and iron industries, the rate was 1 in 41.[1]

These figures show a very great difference between the health of the towns as compared with the country, although the towns were receiving a large number of young people supposedly in the prime of life every year. Perhaps the most striking comparison is that which he gives for 1774, when there was a detailed enumeration of the town and

[1] Percival: *Essays*, III, pp. 3–52.

parish. The death-rate in the parish was 1 in 56, and in the town, despite the number of new settlers, it was 1 in 28. It is hardly too much to say that the cities of England were veritable death-traps to their industrial population, for they would contribute the greater part of the toll of death.

Pauperism.—Even the briefest notice of social conditions of England in this period would be incomplete without a reference to the problem of pauperism. The features worthy of consideration are the very rapid increase in the Poor Rates throughout the country, the course of legislation on the pauper problem, the effect of the Settlement Laws and their administration, the introduction of workhouses, and lastly, the rise of Friendly Societies. The effect of the Settlement Laws have been dealt with in a previous chapter as they affected the agricultural districts to a greater extent than the industrial."[1]

The increase in the cost of Poor Relief was in some measure due to the growth of manufacturing centres where a temporary depression of trade would throw a great number of poor on the parish. In other cases it would be due to the immobility of labour under the Settlement Laws. In places where enclosure was followed by a decrease of the land under the plough there would be less work than before, and even if there was as much many families who had kept above the level of subsistence by the help of their common rights would fall below it under the new conditions and require partial relief. There was during the century a growing sensitiveness on the part of the public toward suffering and grinding poverty, and this would tend in many cases to a more generous provision for the poor. In any case, even the most cursory glance into the literature of the day will serve to show that the problem was an ever-present one and was continually pressing on the mind of all who were seriously concerned with the public weal. From the report of the Inquiry Commission appointed by the Board of Trade in 1696, a report drawn up by Locke to the voluminous work of Eden in 1796, men of various shades of opinion concerned themselves to make some

[1] See chap. IV, "Social Conditions and Labour."

contribution to the solution of the problem of poor relief.

Increase in Poor Rate.—In the last quarter of the seventeenth century the Poor Rate was much lower in the north generally than in the south. Eden publishes in his work a table of the amounts contributed for Poor Relief by the different counties about the latter part of the 'eighties of that century. The amount when worked out per head of population ranged from 6·1 pence per head for Lancashire to 40·3 pence for Rutland.[1] The counties immediately preceding Rutland in the list are the counties of the eastern clothing district; local depressions of trade would make a great difference to the Poor Rate. London, Middlesex, and Westminster, grouped together, come about midway in the list with an expenditure of 20*d.* per head, while the clothing area of the south-west is all in the latter half of the list.

The population of the counties as given by Eden does not at all agree with the figures as adopted by Finlaison in the Census reports of 1831, and which are now so generally accepted, so that the table is useful only as a means of comparing the distribution of pauperism at the time. Lancashire, however, which paid £7,200 at the earlier date, was by 1783 paying £73,353 per annum, so that the increase had considerably more than kept pace with the population. Elsewhere Eden gives the amounts spent in the town of Lancaster from 1736 to 1760,[2] a period in which the growth of the town was inconsiderable. In 1736 they spent £95, and in 1760, £391. This represented an increase of more than four times in twenty-four years. These figures reflect the general increase which attracts so much attention from the writers of the time. In a previous chapter,[3] a calculation shows a rough approximation to the increase per head as from 6*d.* to at least 28*d.* between 1685–90 and 1760.

Legislation.—The century opened with a report from a Commission of Inquiry appointed by the Board of Trade in 1696.[4] This report, drawn up by Locke, recommends

[1] Eden: *State of the Poor*, Vol. I, p. 230.
[2] *Ibid.*, II, pp. 302–9 (Parochial Details).
[3] See above, chap. IV, "Social Conditions and Labour."
[4] Eden, II, p. 248.

an elaborate scheme based on the ability of the poor to work, and on the size of their families. A working school in each parish and the provision of materials is recommended. In 1705 a Bill based on the report was introduced, but did not become law. An isolated Act had been passed in 1696,[1] however, which was destined to exercise a good deal of influence.

By that Act, the parishes of the city of Bristol were incorporated for purposes of Poor Law Relief, with power to erect a workhouse and levy a general Poor Rate. This workhouse was not a success at first, and in 1714 the Corporation got power to increase the rate. By 1731 they were on a sound basis and the rate fixed in 1714 (£3,500) remained until the 'sixties.

There were few Acts passed in the reign of Queen Anne with regard to the poor, and but little alteration in the reign of George I. In 1715, the Truck Act of Queen Anne [2] was enforced with some additional penalty, and in 1720, an Act was passed [3] to prevent men leaving their families a charge on the parish while they went elsewhere to work. The workhouse idea received fresh impetus through an Act passed in 1723,[4] by which churchwardens received power to hire or purchase houses for the lodging, keeping, and employing the poor. The powers of this Act were, apparently, widely used, for a pamphlet of 1725 when reprinted in 1732 gives particulars of sixty workhouses in the country and fifty in the city.[5] An Act of 1733 provides for the recovery of the cost of keeping illegitimate children, when paternity was proven, unless the mother was married before the child was born. An Act of 1744 [6] attempted to correct some of the abuses which had grown up in the financial administration of Poor Relief. This Act provided for accounts to be regularly kept, to be open to inspection, and for a statement to be rendered by the outgoing overseer to the incoming one. The Act of 1744 empowered justices to determine all differences between masters and

[1] 7 & 8 Wm. III.
[2] 1 Geo. I, c. 8.
[3] 5 Geo. I.
[4] 9 Geo. I, c. 9.
[5] Eden, II, p. 269, quotes this writer without giving his name.
[6] (1733) 6 Geo. II; (1744) 17 Geo. II.

men in husbandry or other labourers hired for a definite period; while another in 1758 relieved apprentices from their hardships in being removed from places where they had been unwarily bound by deeds not properly indented.

An important Act was passed in 1767,[1] which provided for the outside nursing of pauper children until they were six years of age. Since Dickens' day, conditions have vastly improved; but even yet, institution life is not very helpful to young children. Conditions in the eighteenth century may be imagined from the fact that almost all pauper infants died under six years of age before the passage of the Act of 1767. Price, in commenting on it, "allowed that it had prevented a great many deaths."[2] The last Act respecting the poor that can be said to fall within our period is that of 1755, repealing the Act of Elizabeth, which enacted that no cottage should be erected without at least four acres of land attached to it. Thus did the legislature abandon the policy of providing the poor with the means to increase their income, and achieve some small measure of independence in their humble way.

Contemporary Opinions.—From an examination of the Poor Law literature of the eighteenth century, certain definite opinions emerge. There is first of all a growing conviction that the parish had ceased to represent the most economical unit of administration. Dr. Tucker, the Dean of Gloucester, in a pamphlet of 1760,[3] expresses the opinion that the defects of the Poor System were the division into parochial districts, the maintaining of the poor in separate families, and the annual election of Parish Officers. He proposes the incorporation of several parishes together for Poor Law purposes, and Guardians for the government of the corporation. In 1753, the Earl of Hillsboro' proposed to form a "Poor Corporation" of subscribers of £5 and upwards, and by means of a general rate, levied over the country, take care of Poor Relief. Sir Richard Lloyd in the same year proposes a Poorhouse system, dividing the county into suitable districts, with Justices and other

[1] 7 Geo. III, c. 39. [2] Eden, I, p. 338.
[3] Eden, I, p. 340.

chosen men as guardians.[1] These instances show that the workhouse idea was increasing in favour as the century went on.

There was also a tendency to discriminate between the various classes of the poor.[2] The Act of 1744 classifies vagrants into three classes: first, Idle and Disorderly; second, Rogues and Vagabonds, who included patent gatherers, fencers, bear wards, strolling players, fortune-tellers, petty chapmen, without a licence; and third, Incorrigible Rogues. When Alcock[3] in 1752 proposed a plan of a workhouse for every hundred, he suggested that each workhouse should have three parts: one for the impotent and honest, industrious poor; one for the sick; and the third for the confinement, labour, and correction of vagrants, idlers, and sturdy beggars.

One outstanding feature of Poor Law Administration throughout most of the century was the difficulty due to the Settlement Laws.[4] As early as 1735, a Member of Parliament published some remarks on the Poor Laws, and the pamphlet was republished in 1751 and 1794.[5] He speaks very forcibly in condemnation of a system which abridges a poor man of his liberty, of the nuisance of appeals at quarter sessions on orders for removal, of the expense of returning persons to their parishes, and of the uncertainty under which the poor labour of not knowing whether they will be allowed to remain in a place or not. The Earl of Hillsboro' in 1753 wished to destroy the system of settlements altogether. Dr. Burn in a *History of the Poor Laws* in 1764 gives a picture of a Parish Overseer that is far from flattering. The description is too long for quotation, but the office of the overseer would appear to have been by every possible means to keep down the number of poor and reduce the Poor Rate with very little regard to the needs or feelings of the poor. He concludes by suggesting that overseers think their duty is anything

[1] Eden, I, p. 318.
[2] *Ibid.*, p. 306.
[3] *Ibid.*, p. 311. Cooper in 1763 proposed a similar scheme.
[4] See above, chap. IV.
[5] Hay, Remarks on the Poor Laws. Quoted Eden, I, p. 296.

"but to see that the poor shall resort to church, and bring their children to be instructed; to contract with the master that he shall procure his apprentice to be taught to read or write; to provide a stock of material to set the poor on work; to see the aged and impotent comfortably sustained, the sick healed, and all of them clothed with neatness and decency. These and suchlike, it is to be feared, are not so generally regarded as the laws intended, and the necessity of the case required." [1]

Lastly, there was a widespread dissatisfaction with the existing state, not only of the Poor Laws, but with their administration. Henry Fielding,[2] the novelist, may be allowed to express that general dissatisfaction:

"It must be a matter of astonishment to any man to reflect that in a country where the poor are, beyond all comparison, more liberally provided for than in any other part of the habitable globe, there should be found more beggars, more distress, and miserable objects than are to be seen throughout all the states of Europe . . . that the Poor Laws are a very great burthen, and even a nuisance to this kingdom; that the laws for relieving their distress and restraining their vices have not answered those purposes; and that they are at present very ill provided for, and much worse governed, are truths which every man, I believe, will acknowledge . . . so very useless indeed is this heavy tax, and so wretched its disposition, that it is a question whether the poor or the rich are more dissatisfied, or have indeed greater reason to be dissatisfied."

Friendly Societies.—The eighteenth century saw the beginning of many Friendly Societies and they were gradually extending to most parts of Great Britain.[3] In the north of England instances were found of clubs of this kind which had existed more than a hundred years by 1795.[4] Alcock, in 1752, mentioned several consisting of tradesmen and

[1] Burn: *History of the Poor Laws*, 1764.

[2] Henry Fielding: *An Enquiry into the late Increase of Robbers, etc.*, 1751, Sect. 4, Poor Laws. As a magistrate, Fielding had seen a good deal of Poor Law Relief in both town and country, and also of the criminal classes.

[3] Eden, I, pp. 610–18.

[4] Eden: *Observations on Friendly Societies*, 1801. Statistics of Friendly Societies in 1795. 5,117 societies had registered their rules. Industrial counties show the greatest numbers. Lancashire, 820; Middlesex, 600; Yorkshire, 414; London, 250; Norfolk, 203; Essex, 205; Suffolk, 235. Wales had only 100 altogether. Unmentioned counties all less than 200.

manufacturers, particularly in the west of England. The Friendly Society of Shoemakers at Newcastle dates from 1719.

Another club with a general membership was also begun at Newcastle in 1731. This club, by 1795, had a fund of £344, with 120 members. At Lancaster, in 1795, there were seventeen Friendly Societies, the earliest dating from 1767. At the same time, in Liverpool, there were twelve societies. At Preston there was one society, dating from 1762, which had 154 members.[1]

[1] Eden, II, pp. 302 *et seq.*

APPENDIX I

Gentleman's Magazine, October and November, 1752. An article on the New Husbandry. Rotation as follows:

Fld.	1739.	1740.	1741.	1742.	1743.	1744.	1745.	1746.	1747.	1748.	1749.	1750.	1751.
A	Clover	Wheat	Barley	Clover	Clover	Wheat and Barley	Turnips	Barley	Clover	Turnips	Barley	S. Fal.	Wheat
B	Barley	Clover	Clover	Wheat	Turnips	Barley	Clover	Wheat	Barley	Clover	Wheat	Barley	Clover
C	Barley	Peas	Barley	Clover	Peas	Turnips	Barley	Clover	Peas	Wheat	Turnips	Barley	Clover
D	Wheat	Barley	Clover	Barley	S. Fal.	Wheat	Turnips	Barley	Turnips	Barley	Clover	Clover	Peas
E	Barley	Peas	Barley	Turnips	Barley	Turnips	Barley	Clover	Clover	Wheat	Turnips	Barley	—
	L (untilled)				Turnips	Barley	Clover	Clover	Clover	Peas	Wheat	Barley	Clover
F	L	Barley	Turnips	Barley	Clover	Clover	Barley	Clover	Clover	Peas	Wheat	Turnips	Barley
	Barley	Peas	Turnips	—									
G	Turnips	Barley	Clover	—	Wheat	Turnips	Barley	Turnips	Barley	Barley	Turnips	Barley	Barley
H	L	Turnips	Barley	Turnips	Barley	Clover	Clover	Clover	Oats	Clover	Peas	Wheat	—
I	L	Turnips	Barley	Turnips	Barley	Clover	Clover	Wheat	Barley	Turnips	Barley	Clover	—?
J	L	L	Turnips	Barley	Turnips	Barley	Clover	Clover	Wheat	Turnips	Barley	Clover	Wheat
K	L	L	Turnips	Barley	Clover	Clover	Wheat	Turnips	Barley	Clover	Peas	Wheat	Turnips
L	L	Turnips	Wheat	Turnips	Barley	Clover	Clover	Barley	Turnips	Barley	Clover	Peas	Wheat

Field F is divided into two from 1743, and G is in two parts till 1743.

APPENDIX II

Covenants in Leases. Quoted Edward Laurence: *Duty of a Steward.*

1. Not to pare and burn land. Penalty £20 per acre.
2. Not to sow hemp, rape, flax, woad, madder, etc., not potatoes and hops except for private use. Penalty £10 per acre.
3. Not to convert pasture into tillage except where necessary because of the growth of moss. Penalty £10 per acre.
4. Not to cut timber for sale. Penalty 10 times the value.
5. Rotation to be pursued. Fallow, corn (wheat, rye or barley), beans or pease, barley or oats. Half the manure is to be laid on the meadows, and half on the tillage. Also to lay 40 bus. of lime per acre on the fallow. Penalty £20 above the rent.
6. Spend all the hay and straw on the premises. Penalty £20.
7. Scour all ditches. Penalty £10.
8. Keep dwelling houses in good repair.
9. Yoke and ring hogs. Penalty 10*s.* per hog.
10. Sow winter corn before Michaelmas.
11. No subletting. Penalty £20.
12. Hedges to be kept in repair.
13. No rabbits are to be kept.
14. No drying and burning of manure.
15. Mole catchers are to be paid 1*s.* per dozen, by assessment.
16. Tenants must keep the by-roads.
17. No greyhounds or guns, nor snaring of game.
18. No brick kilns, or digging of brick clay. Penalty £500.
19. Tenants' teams are to lead home the corn and hay from the demesne lands.
20. Tenant to keep up the out-houses with slate or tile of the farm.
21. Tenant to pay church, constable, and poor assessment, and all other except the land tax.
22. A present is to be made every Christmas to the landlord.

APPENDIX III

Table of the Enclosure Acts Passed for Lancashire and Cheshire in the Eighteenth Century.

Made up from *Lancs. and Ches. Antiq. Soc.*, Vol. VI, pp. 112–26. Wm. Harrison, 1888

There were records of three enclosures prior to the eighteenth century, which may perhaps be taken as indicative of a great many more.

1529. The town fields of Padiham, near Burnley, appear to have been divided by Sir John Townley, Nicholas Tempest, and N. Banastre, the commissioners of the enclosure.

1597. Denton. Common lands enclosed when 292 acres or thereabouts were appropriated by the adjacent land-owners.

1630. Rowton Heath, near Chester. Amount not given.

1709. At or near West Kirby Mr. Harrison found traces of several enclosures, one of which was in 1709, by the drawing of lots.

1724. An Act to enclose the Common and tract of land called Croston Finney. This did not apply to all the waste in Croston, and there were later enclosures there.

1724. An Act applying to waste ground in West Houghton.

1730. The commons and parcels of waste ground in the township of Claughton, near Garstang. From 1730 to 1750 there is no single instance of an Enclosure Act relating to Lancashire or Cheshire. Mr. Harrison thinks there was much enclosure by agreement during this period.

1750. An Act for confirming articles of agreement for enclosing and dividing commons and waste ground within the Manor of Culceth.

1756. Commons in Ellel, near Lancaster.

1759. Longton, near Preston.

1759. Walton on the Hill, and Fazakerley.

1761. An Act not mentioned by Mr. Harrison, but by Holt in 1795, for the enclosing of Worbrech Moor, which was evidently a successful experiment.

1762. Lowton, near Wigan, and Astley.

1765. Walkden Moor, and part of Chat Moss lying within the Manor of Worsley.

This date marks the beginning in Lancashire of the extreme activity of the later eighteenth century. The lull between 1780 and 1790 can be clearly traced in this table as well as in the figures for the country as a whole. In that decade there were only four Acts as compared with eleven in the previous fifteen years, and twelve in the last ten years of the century.

1766. Bryn Common, Weaverham, Ches., 460 acres.
1767. Several Commons in the Manor of Chorley. Common waste lands and sandhills—Layton Hawes, near the present Blackpool.
1768. Wavertree, near Liverpool.
1771. Barniker Moor, in Nether Wyersdale.
1773. Grappenhall and Latchford, in Cheshire.
1774. Oswaldthistle.
1776. Little Harwood.
1777. Common fields in the Manor of Yealands, including Wartham Moss and Hilderstone Moss.
1777. Four townships near Frodsham, Cheshire.
1778. Lathom and Skelmersdale.

The next is an Act for draining, improving and preserving the lowlands of the parishes of Altcar, Sefton, Halsall, and Walton on the Hill.

1779. Enclosure at Lower Darwen, Lancs.
1785. Forton, 80 acres.
1786. Clitheroe, 300 acres.
1788. Billington in Wilpshire.
1789. Wiswell Moor, 350 acres.
1791. Christleton, 277 acres.
1792. Bolton Moor and other Commons in the township of Great Bolton, 289 acres, or without roads, 247 acres. 1/15 went to the lords of the manor. The rest was sold on chief rent or let on long leases, the rents to be applied to the poor rate.
1793. Claife, near Hawkshead, 1,350 acres.
1793. Clayton le Moors, in Whalley.
1795. Congleton and Edgeworth.
1796. Royal Manor of Macclesfield.
Farmouth and Kersley.
1796. Lancaster marshes drained. Still a stinted common. Cartmel, 12,516 acres.
1797. Halton Moor, Over Killet Moor, and Commons within the Manor of Hornby.
Harwood, near Blackburn.
150 acres at Ditton, near Widnes.

1799. Thornton Marsh in Foulton and Bispham.
Ulverston Lands.
1800. Croston again. Associated with Mawdesley, Rufford, Bispham, Tarleton, and Bretherton. The Act included the drainage of low lands.
Hale and Halewood, 350 acres.

To summarize,

for Lancashire there were forty Acts during the century, and for Cheshire twelve.

The acreage returns are unreliable, as they vary from statute acres to Cheshire acres, and some give the estimated acreage in the Act, some the surveyors awards; some include and some exclude roads allowance.

The aggregate of the twelve Cheshire Acts is given at 10,563 acres.

The aggregate of twenty-seven Lancashire Acts is given at 26,801 acres, but which Acts they are is not specified.

APPENDIX IV

Export of Corn from the Chief Ports. Christmas, 1734, to Christmas, 1735.

Extracted from Postlethwayte: *Univ. Dict. of Trade and Commerce.* Article on Corn.

Port.	Barley.	Malt.	Oatmeal.	Rye.	Wheat.	Bounty.
	qrs.	qrs.	qrs.	qrs.	qrs.	£
London . .	8,914	2,101	39	51	59,784	16,429
Yarmouth . .	9,802	92,374	—	494	5,938	13,629
Wells . . .	202	60,247	—	217	210	6,849
Portsmouth .	2,190	8,245	—	—	16,876	5,523
Lynn Regis .	5,747	17,411	—	549	6,778	4,534
Chichester . .	603	11,339	—	—	8,748	3,941
Southampton .	3,013	2,358	—	—	9,443	3,098
Berwick . .	2,396	425	—	—	10,944	3,094
Hull . . .	—	8,063	—	—	3,732	2,321
Shoreham . .	4,890	2,842	—	—	3,007	1,821
Exeter . . .	7,693	—	1,279	—	1,134	1,405
Sandwich . .	349	3,595	—	—	2,485	1,085
Blackney and Clay . .	81	9,369	—	18	254	1,066
Dover . . .	429	—	—	—	4,015	1,057
Bristol . . .	—	—	—	—	—	308
Arundel . .	—	—	—	—	3,090	447(?)
Cowes . . .	689	—	—	—	2,241	646
Ipswich . .	864	394	—	—	2,282	728
Milford . .	51	—	583	—	2,796	778
Liverpool . .	9	—	7	—	991	249
Poole . . .	690	87	10	—	1,159	389
Others very small						
Totals for all .	57,520	219,781	1,920	1,329	153,343	£72,433

TABLE OF PRICES TAKEN FROM YOUNG, VOL. 4.

Place.	Bread.	Butter.	Cheese.	Mutton.	Beef.	Veal.	Pork.	Av.
	d.	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*
Kabers (oat) . . .	¾	8	3	2½	2½	—	4	3
Garstang (oat) . .	¾	7	3	3	3	—	3	3
Warrington (barley and oat) . . .	—	7½	3½	3	3	3	4	3½
Liverpool (wheat) .	1½	7	3½	3½	2½	4	4	3½
Altringham (wheat and barley) . .	—	6	3½	3½	2½	3½	3½	3
Ave. of Country .	1¼	6	3	3	3	3	3½	3

The average of Lancashire is therefore slightly higher than that of the north as a whole except for beef, which was quite plentiful in the county, as it was a large dairy county and there would be a good supply of cattle for sale. For example, the dairymen bought their cattle when freshly calved and when dry sold them to the butcher.

TABLE OF PRICES OF WHEAT AND MALT AT WINDSOR, 1649–1762.

Based on *Museum Rusticum*, Vol. II, p. 70 and p. 129.

Year.	Wheat.	Malt.	Year.	Wheat.	Malt.
	s. *d.*	*s.* *d.*		*s.* *d.*	*s.* *d.*
1646	48 0	29 0	1744	24 10	24 6
1656	43 0	24 0	1745	27 6	23 4
1666	36 0	26 0	1746	39 0	22 4
1674	68 8	34 0	1747	34 10	22 8
1676	38 0	26 0	1748	37 0	23 4
1679	60 0	26 8	1749	37 0	25 4
1686	34 0	25 4	1750	32 6	25 4
1696	71 0	28 0	1751	38 6	26 0
1706	26 0	22 0	1752	41 10	27 4
1711	54 0	35 4	1753	44 8	27 8
1716	48 0	28 0	1754	34 8	28 0
1721	37 6	28 4	1755	33 10	25 4
1726	46 0	28 0	1756	45 3	26 0
1731	32 10	20 5	1757	60 0	36 0
1736	40 4	24 0	1758	41 6	—
1740	50 6	32 0	1759	39 6	—
1741	46 8	32 0	1760	34 6	—
1742	34 0	38 8	1761	40 0	—
1743	24 10	28 6	1762	38 0	—

Table of Corn Export and Gross Malt Duty, 1700–1756.

Based on the *Museum Rusticum*, II, pp. 289–96.

(Where the same years are given this table agrees with Postlethwayte.)

Year.	Wheat. qrs.	Malt Export. qrs.	Malt Duty. £	Barley. qrs.	Rye. qrs.
1700	49,000			26,000	27,000
1701	97,000		173,000	22,000	24,000
1702	89,000	72,000	140,000	16,000	51,000
1703	106,000	123,000	689,000	72,000	58,000
1704	90,000	103,000	510,000	31,000	29,000
1705	96,000	137,000	699,000	21,000	24,000
				10,000	50,000
1706	188,000	141,000	596,000	5,000	34,000
1707	173,000	111,000	645,000	29,000	5,000
1708	83,000	98,000	598,000	41,000	166,000
1709	69,000	140,000	523,000		
Ave. for Decade	104,000	115,625	508,111	27,300	48,800
1710	14,000	80,000	507,000	6,000	12,000
1711	77,000	140,000	574,000	8,000	37,000
1712	135,000	192,000	575,000	20,000	17,000
1713	176,000	218,000	645,000	53,000	39,000
1714	175,000	220,000	516,000	19,000	20,000
1715	165,000	103,000	631,000	5,000	31,000
1716	75,000	227,000	687,000	15,000	40,000
1717	23,000	251,000	744,000	18,000	23,000
1718	72,000	303,000	693,000	71,000	49,000
1719	128,000	357,000	728,000	9,000	45,000
Ave. for Decade	104,000	209,100	630,000	22,400	29,300
1720	82,000	254,000	661,000	4,000	49,000
1721	82,000	339,000	737,000	12,000	70,000
1722	179,000	367,000	851,000	38,000	33,000
1723	156,000	305,000	791,000	46,000	13,000
1724	246,000	242,000	625,000	10,000	23,000
1725	204,000	294,000	703,000	14,000	21,000
1726	142,000	336,000	697,000	20,000	19,000
1727	30,000	241,000	655,000	8,000	9,000
1728	4,000	195,000	540,000	198	13
1729	19,000	131,000	594,000	5,000	1,000
Ave. for Decade	114,600	270,700	685,400	15,700	24,800
1730	94,000	179,000	732,000	15,000	12,000
1731	130,000	178,000	166,000	14,000	21,000
1732	202,000	161,000	694,000	14,000	15,000
1733	427,000	203,000	768,000	38,000	28,000
1734	498,000	233,000	698,000	70,000	10,000
1735	153,000	220,000	657,000	58,000	1,000
1736	118,000	192,000	610,000	7,000	1,000
1737	462,000	104,000	631,000	24,000	8,000
1738	581,000	189,000	674,000	71,000	36,000
1739	280,000	192,000	689,000	54,000	29,000
Ave. for Decade	294,500	185,100	681,900	36,500	16,100

Year.	Wheat. qrs.	Malt Export. qrs.	Malt Duty. £	Barley. qrs	Rye. qrs.
1740	54,000	146,000	569,000	24,000	9,000
1741	45,000	123,000	519,000	7,000	8,000
1742	293,000	189,000	665,000	11,000	63,000
1743	371,000	219,000	678,000	35,000	88,000
1744	232,000	220,000	819,000	20,000	74,000
1745	325,000	219,000	642,000	96,000	84,000
1746	131,000	282,000	618,000	159,000	46,000
1747	267,000	361,000	642,000	103,000	93,000
1748	543,000	349,000	681,000	73,000	104,000
1749	629,000	355,000	644,000	53,000	106,000
Ave. for Decade	289,000	246,000	627,000	58,100	57,500
1750	947,000	331,000	755,000	224,000	99,000
1751	661,000	256,000	696,000	32,000	71,000
1752	429,000	288,000	626,000	106,000	38,000
1753	300,000	247,000	651,000	67,000	25,000
1754	356,000	322,000		48,000	43,000
1755	237,000	342,000		33,000	43,000
1756	102,000	237,000		27,000	30,000
Ave. for 7 yrs.	433,143	292,800	682,000	76,714	52,714

APPENDIX V

TABLE SHOWING THE USE OF WHEATEN BREAD, *circum* 1760.

Eden: *State of the Poor*, I, 564. Quoted from *Tracts on the Corn Trade*, 1766, pp. 183–5.

Divides country into districts:

I. London, Essex, Sussex, Kent, Surrey, etc., S.E. and S. generally.
II. Wilts, Somerset, Devon, Dorset and Cornwall.
III. The Midlands.
IV. Chester, Derby, Nottingham, Lincoln and LANCASHIRE.
V. York, Westmorland, Northumberland, Durham, Cumberland.
VI. Wales.

District.	Houses.	Population, 6 per house.	Number Eating			
			Wheat.	Barley.	Rye.	Oats.
I. . .	348,187	1,089,122	1,866,405	36,741	185,976	—
II. . .	150,689	904,134	682,815	221,319	—	—
III. .	170,746	1,024,476	691,258	159,136	156,237	17,845
IV. .	123,025	738,150	200,339	128,621	118,795	290,395
V. . .	148,760	892,560	283,996	37,196	285,382	285,986
VI . .	45,075	270,450	29,344	127,585	113,521	—

Population: 5,918,892 (say 6,000,000).

Wheat	3,750,000
Barley	739,000
Rye	888,000
Oats	623,000

APPENDIX VI

PRICES OF IMPLEMENTS AND FARM WORK, ETC., IN HERTFORDSHIRE, JANUARY, 1765. *Museum Rusticum*, II, p. 129 *et seq.*

Complete wagon	£16 to £20
Complete cart	£8 to £10
Two-wheeled plough with chain and splinter-bar	£3
Foot swing and dray plough	£1
5-barred harrow	17*s.*
4- ,, ,,	15*s.*
3- ,, ,,	12*s.*
Roller, complete	15*s.*
Bricks at kiln, per 1,000	17*s.*
Horses	£5 to £15
Cows	£3 to £8
Sheep	10*s.* to 20*s.*
Hogs	5*s.* to 40*s.*
Barley	24*s.* per quarter
Wheat	48*s.* to 56*s.* per quarter
Oats	13*s.* per load
Peas	17*s.* per load
Harvest man, with diet	33*s.* to 40*s.* per month
Labourer, with small beer	1*s.* per day
Carpenter	1*s.* 8*d.* per day
Bricklayer	1*s.* 10*d.* per day
First ploughing	6*s.* per acre
Second ploughing	5*s.* ,, ,,
Rolling	4*d.* ,, ,,
Harrowing	6*d.* ,, ,,

APPENDIX VII

Tabular Statement of Roads Turnpiked in Lancashire from 1700 to 1760.

Found in *Lancs. and Ches. Antiq. Soc.*, Vol X, Appendix II.

Original Act.	Road Concerned.	Trust Expired.
1724	Buxton and Chapel-en-le-Frith to Manchester	1860–75
1725	Liverpool to Prescot	1871
1726	Wigan to Preston via Buxton and Chorley	1866–7
1726	Wigan to Warrington	1877
1731	Manchester, Ashton, Mottram, and Saltesbrook	1884
1734	Manchester, Oldham and Austerlands	1880
1734	Rochdale, Blackstone Edge, Halifax and Elland	1872
1744	Prescot to St. Helens (united with the Liverpool, Warrington and Ashton roads)	1871
1750	Crosford Bridge, Stretford and Manchester	1872
1750	Richmond to Lancaster	1867–8
1750	Preston, Lancaster, to Heiring Sykes (Burton)	1875
1752	Didsbury to Wilmslow	n. 1882
1752	Granage, Knutsford and Altringham	1881
1752	Mere to Warrington	1881
1752	Salford to Warrington, and Bolton to Wigan and Duxbury and to Worsley	1878
1752	Prescot to Warrington, St. Helens to Makerfield	1871–6
1754	Rochdale to Burnley	1871
1754	Manchester by Crumpsall to Rochdale, Bury and Radcliffe	1880
1754	Bradford and Haworth to the Blue Bell, near Colne	1873–80
1754	Skipton, Colne, Blackburn, Burnley and Walton	1860
1754	Skipton, Gisburn, Clitheroe, and Preston	1873–81
		1873–81

There were sixteen Acts in the 'sixties, half of which were in Lancashire, four in that county in the 'seventies, and four in the 'eighties. The 'fifties of the century with thirteen Acts were therefore the period of greatest activity in securing turnpike Acts for the country.

APPENDIX VIII

WAGES ASSESSMENT BY THE WARWICKSHIRE QUARTER SESSIONS, 1738.

In force till 1773. (See Bland, Brown, and Tawney: Select Documents, *English Economic History*, pp. 654–7.)

	£	s.	d.
First Husbandry Servant, per year	5	10	6
Second do.	4	0	0
Servant Boy, 14–18	2	10	0
Servant Boy, 11–14	1	0	0
Head Servant Maid	3	0	0
2nd ,, ,,	2	10	0
Labourers per day, Martinmas–March 25			8
,, ,, March 25–Martinmas			9
Grass mower, with drink		1	0
,, ,, without drink		1	2
Women, in haymaking, with drink			5
,, ,, without drink			6
,, in corn harvest, with drink			6
,, ,, without drink			7
Carpenters, Michaelmas to Lady Day, with drink		1	0
,, ,, ,, without drink		1	2
,, Lady Day till Michaelmas, with drink		1	0
,, ,, ,, without drink		1	2
Mason, with drink			10
,, without drink		1	0
Thatcher		1	0
Corn Weeders			4

APPENDIX IX

Comparison at Walton, near Liverpool, of Wages and Prices, 1761 and 1791.

Given by Holt, of Walton, in *Survey of Lancs. Agriculture*, 1795.

Servant.	1761. £	s.	d.	1791. £	s.	d.
Head man-servant, per annum	6	10	0	9	9	0
Maid-servant	3	0	0	4	10	0
Masons and carpenters, per day		1	2		2	2
Labourers			10		1	6
Mowing, per acre		3	0		5	0
Threshing wheat, per score		5	0		7	6
,, barley and beans		2	6		4	0
,, oats		1	8		2	6
Tailor, per day, with food			6		1	2
Thatcher, per day		1	0		2	0
Butcher, for killing and cutting up a pig			8		1	6
Butcher, for killing and cutting up a calf and selling		1	0		2	6
Butcher, for killing and cutting up a cow and selling		2	0		5	0
Price of good cart horse	10	0	0	25	0	0
Pair men's shoes		3	6		7	0
Set of horses' shoes		1	0		1	8
Journeymen butchers in Liverpool in 1761: for slaughtering a bull, 2*s.*; a cow, 1*s.*; a sow, 6*d.*; a sheep, 1½*d.*; a calf, 3*d.*; and a day's work was 12 calves, or 20–24 sheep.						
Large cart 7 feet 3 inches, wheels 5 feet 2 inches, two coats of paint and flakes	5	0	0	9	4	0
New axle-tree, with work		4	0		6	6
Wringing a pair of wheels		18	0	1	15	0
Wheel barrow and trundle		5	0		12	0
Plough, woodwork		7	0		11	0
Harrow, 3 feet 6 inches		3	6		5	6
Pair of Hames			6			9

	1761.	1791.
	s. d.	*s. d.*
Spade Shaft	4	6
Five-barred Gate	5 0	10 0
Wheat Straw, per load	5 0 per 20 lbs.	
Barley Straw, per thrave	2½	3½
Oat Straw, per thrave	5	6
Butter, per lb.	5*d.* to 8*d.*	8*d.* to 1*s.* 9
Sweet milk, per quart	1*d.*	1*d.*
Eggs	2 or 3 for 1*d.*	1*d.*–2*d.* each
Expended on the poor, Easter, 1760–61	£22 3 2½	
,, ,, ,, 1790–91	£115 1 1	

There had been built in the meantime 20 new houses.

Lancashire Assessment of Wages: 1725.

Eden: *State of the Poor*, Vol. III, pp. cvi–cx.

Annual Wages.	£ *s. d.*
Chief hind or headman servant	6 0 0
Best millers, without meat and drink	10 0 0
Chief servant in husbandry	5 0 0
Best millers, with meat and drink	5 0 0
Common husbandry servant, over 24 years	4 0 0
Man servant, 20–24 years	3 10 0
Man servant, 16–20 years	2 10 0
Chief woman—cook or housekeeper	2 10 0
Ordinary maid	2 0 0
Maid under 16	1 10 0

Day Wages.	Without meat and drink. *s. d.*	With meat and drink. *s. d.*
March to September, best farm labourer	1 0	6
ordinary farm labourer	10	5
September to March, best farm labourer	10	5
ordinary farm labourer	9	4
Haymakers, male	10	6
female	7	3
Mowers of hay	1 3	9
Shearers, male	1 0	6
female	10	6
Hedgers, ditchers, palers, threshers, etc.	10	6
Masons, carpenters, joiners, plumbers, etc.	1 0	6

Day Wages.	Without meat and drink. s.	d.		With meat and drink. s.	d.
Master workmen, having workmen under them	1	2			
Sawyers, per pair	2	0		1	0
Master taylors	1	0			6
Journeymen and apprentice taylors		10			5
Shearing (cutting grain), per acre :					
Oats	5	0	to	6	0
Barley, pease, beans	6	0		7	0
Wheat and rye	7	0	to	8	0
Threshing, winnowing, fanning, per qr. :					
Oats				1	0
Barley, pease, beans				1	6
Wheat or rye				2	0
Wheelwrights, for sawing 22 feet of board				8	0
hewing a gang of fellies				1	0
making a plough (the woodwork)				2	0
Brickmakers, for 1,200 bricks				3	0
Ditchers, a new ditch, 4 feet by 3 feet by 1½ feet, double set with quick, and gathering the sets, per rood of 8 yards				1	0
Without the hedge					10
Hedge alone					3
Colliers, miners in a high delf, per 24 baskets (a tunn)				1	0
miners in a low delf ,,		,,		1	3
Paving, per square yard					1
Bricklayers, without meat and drink				1	0
with meat and drink					6
Master workmen, with others under them				1	2

APPENDIX X

Foreign Commerce and Shipping.

Years.	Imports.	Exports.	Total.
	£	£	£
1662–3 . . .	4,000,000	2,000,000	6,000,000
1668–9 . . .	4,200,000	2,100,000	6,300,000
1696–7 . . .	3,500,000	3,500,000	7,000,000
1700–4 . . .	5,100,000	6,700,000	11,800,000
1705–9 . . .	4,300,000	6,500,000	10,800,000
1710–14 . . .	4,900,000	7,300,000	12,200,000
1715–19 . . .	6,000,000	8,000,000	14,000,000
1720–4 . . .	6,400,000	9,000,000	15,400,000
1725–9 . . .	7,100,000	10,600,000	17,700,000
1730–4 . . .	7,400,000	11,500,000	18,900,000
1735–9 . . .	7,600,000	11,800,000	19,400,000
1740–4 . . .	7,100,000	11,600,000	18,700,000
1745–9 . . .	7,400,000	12,000,000	19,400,000
1750–4 . . .	8,100,000	14,000,000	22,100,000
1755–9 . . .	8,800,000	13,700,000	22,500,000
1760–4 . . .	11,000,000	15,700,000	25,700,000
1765–9 . . .	11,600,000	14,200,000	25,800,000

Shipping Cleared.

	Tons.
1663–69	143,000
1668	286,000
1696	175,000
1697	245,000
1700–02	317,000
1709	289,000
1712	356,000
1713–15	448,000
1718	444,000
1726–28	456,000
1736–38	502,000
1739–41	471,000
1749–51	661,000
1755–57	525,000
1760	574,000

Westerfield, pp. 122–3. Based on Anderson: *Chronological Deductions*, IV., 692–4, and Chalmers: 69, 234, 256–7.

APPENDIX XI

TABLE SHOWING THE TWELVE MOST DENSELY POPULATED COUNTIES IN ENGLAND.

Toynbee: *Industrial Revolution*, p. 10.

1700.		1750.		1881.	
County.	No. per sq. mile.	County.	No. per sq. mile.	County.	No. per sq. mile.
Middlesex . .	2,221	Middlesex .	2,283	Middlesex .	10,387
Surrey . . .	207	Surrey . .	276	Surrey . .	1,919
Gloucester . .	123	Warwick . .	159	Lancashire .	1,813
Northampton .	121	Gloucester .	157	Durham . .	891
Somerset . .	119	Lancashire .	156	Stafford . .	862
Worcester . .	119	Worcester .	148	Warwick . .	825
Herts . . .	115	Herts . . .	141	West York .	815
Wiltshire . .	113	Stafford . .	140	Kent . . .	600
Bucks . . .	110	Durham . .	138	Cheshire . .	582
Rutland . .	110	Somerset . .	137	Worcester .	515
Warwick . .	109	West York .	135	Nottingham .	475
Oxford . .	107	Berkshire . .	131	Gloucester .	455

APPENDIX XII

TABLE SHOWING THE GROWTH OF SOME PROVINCIAL TOWNS IN ENGLAND BETWEEN 1685 AND 1881.

Toynbee: *Industrial Revolution*, p. 11.

(The different numbers for the same town in 1760 are different estimates.)

Town.	1685.	c. 1760.	1881.
Liverpool	4,000	40,000 30–35,000 34,000	552,425
Birmingham	4,000	30,000 40–45,000	393,776
Leeds	6,000	—	400,757
Sheffield	4,000	30,000 20,000	284,410
Bristol	29,000	100,000	206,000
Nottingham	8,000	17,000	111,631
Norwich	28,000	40,000 60,000	87,843
Hull	—	20,000 24,000	161,519
York	10,000	—	59,596
Exeter	10,000	—	47,098
Worcester	8,000	11–12,000	40,421

APPENDIX XIII

Growth of Liverpool.

A. Dock Duties. From a Table in Brooke: *Liverpool*, 1775–1800.

	Vessels.	Duties.		
		£	s.	d.
1752		1,776	8	2
1753		2,034	16	2
1754		2,095	11	0
1755		2,417	13	11
1756		2,187	16	9
1757	1,371	2,336	15	0
1758	1,453	2,403	6	3
1759	1,281	2,372	12	2
1760	1,245	2,330	6	7
1770	2,073	4,142	17	2
1780	2,261	3,528	7	9
1790	4,223	10,037	6	2½
1800	4,746	23,379	13	6

This was from an account published by the dock authorities.

B. Liverpool Customs Revenue, as per a table proved in an important case between the Corporation of Liverpool and Thos. Bolton and others in the King's Bench.

Year.	Gross.	Net Remittance.
	£	£
1733	92,466	35,106
1750	215,961	58,907
1755	202,367	49,661
1760	248,312	84,480
1765	269,435	70,346
1800	1,058,578	734,320

APPENDIX XIV

Table of Wages in 1770, from Young's "Northern Tour."

Place.	Distance from London.	Pay per Week. Harvest	Hay.	Winter.	Annual Average	Wage of 1st Men.	Wage of 2nd Men.	Lads.	Average. Male.	Maids, Dairy.	Other.	Average. Female.	Weekly Harvest.	Wage for Hay.	Women, Winter.
	miles.	s. d.	s. d.	s. d.	s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	s. d.	s. d.	s. d.
Risby . . .	185	12 6	12 6	7 0	8 5	12 0 0	12 0 0	7 0 0	10 0 0	5 0 0	—	—	—	—	—
Holderness .	193	14 0	14 0	8 6	9 0	13 0 0	9 0 0	5 0 0	9 0 0	3 15 0	3 15 0	3 15 0	—	—	—
Danby . . .	235	7 6	6 0	5 0	5 4	15 0 0	8 0 0	4 0 0	9 0 0	5 10 0	4 0 0	4 15 0	5 3	4 0	—
Gosworth . .	279	9 6	12 6	6 0	7 0	12 0 0	8 10 0	3 0 0	7 16 6	4 0 0	3 10 0	3 15 0	5 6	3 0	3 0
Berwick . .	340	6 0	6 0	5 0	5 2	9 0 0	7 7 0	5 0 0	7 2 0	3 3 0	3 3 0	3 3 0	6 0	3 0	2 0
Keswick . .	286	6 6	6 6	7 0	6 10	—	—	—	—	—	—	—	—	—	—
Kabers . . .	230	10 0	10 0	7 0	7 7	9 0 0	5 0 0	2 0 0	5 6 6	3 0 0	2 5 0	2 12 6	6 6	5 6	4 6
Gastang . .	223	10 0	9 0	7 0	7 6	10 0 0	7 0 0	1 18 0	6 6 0	3 10 0	3 0 0	3 5 0	5 6	5 0	4 6
Ormskirk . .	200	6 0	4 0	5 0	4 11	7 0 0	5 0 0	1 10 0	4 10 0	3 0 0	2 10 0	2 15 0	6 0	4 0	—
Altringham. .	180	7 3	6 6	5 0	5 4	8 0 0	5 0 0	2 0 0	5 0 0	4 10 0	2 10 0	3 10 0	6 3	4 3	—
Aston . . .	112	11 0	11 0	8 0	8 7	7 10 0	5 0 0	2 0 0	4 16 6	3 5 0	3 5 0	3 5 0	3 3	3 3	—
Maidenhead .	27	14 0	9 6	6 6	7 6	7 7 0	5 0 0	2 0 0	4 15 6	4 0 0	3 5 0	3 12 6	6 3	4 0	3 0
Kensington .	2	12 6	8 6	9 6	9 4	10 5 0	7 3 6	3 0 0	6 16 0	4 10 0	4 10 0	4 10 0	8 0	5 3	4 0
Average 58 districts		10 8	9 5	6 5	7 1	10 8 6 £8 9 9	6 11 0	3 2 0	5 5 0	3 19 0	3 5 0	3 9 0	6 3	—	3 0

Young reckons board in the north, 8*d.* per day, in the south, 10*d.* per day. A dinner 4½*d.* in the north and 6*d.* in the south. Harvest is reckoned four or five weeks and haytime the same—the rest of the year is on winter wages.

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